HISTORIC PRESERVATION COMMISSION

Marc Elrich
County Executive

Sandra I. Heiler
Chairman

Date: January 19, 2021

MEMORANDUM

TO: Mitra Pedoeem
Department of Permitting Services
FROM: Dan Bruechert
Historic Preservation Section
Maryland-National Capital Park & Planning Commission
SUBJECT: Historic Area Work Permit # 933861 - Roof Antennas

The Montgomery County Historic Preservation Commission (HPC) has reviewed the attached application for a Historic Area Work Permit (HAWP). This application was **approved** at the January 6, 2021 HPC meeting.

The HPC staff has reviewed and stamped the attached construction drawings**.**

THE BUILDING PERMIT FOR THIS PROJECT SHALL BE ISSUED CONDITIONAL UPON ADHERENCE TO THE ABOVE APPROVED HAWP CONDITIONS AND MAY REQUIRE APPROVAL BY DPS OR ANOTHER LOCAL OFFICE BEFORE WORK CAN BEGIN.

Applicant: Ryan Fitzgerald
Address: 7051 Carroll Ave,. Takoma Park

This HAWP approval is subject to the general condition that the applicant will obtain all other applicable Montgomery County or local government agency permits. After the issuance of these permits, the applicant must contact this Historic Preservation Office if any changes to the approved plan are made. Once work is complete the applicant will contact Dan Bruechert at 301.563.3400 or dan.bruechert@montgomeryplanning.org to schedule a follow-up site visit.

B+T GRP

AT&T

smartlink

USID: 3939
FA: 10072888
TULIP AVE
7051 CARROL STREET
TAKOMA PARK, MD 20912
EXISTING ROOFTOP

RF DATA SHEET	
ISSUE REVISION	V2020_0.1
ISSUE DATE	12/31/19

AT&T

SITE NAME:

TULIP AVE

USID: 3939

FA NUMBER: 10072888

APPROVED
Montgomery County
Historic Preservation Commission

Sandra A. Heiler

REVIEWED
By Dan.Bruechert at 11:49 am, Jan 19, 2021

MONTGOMERY COUNTY

EXISTING 111'-0" ROOFTOP

LTE 6C UPGRADE

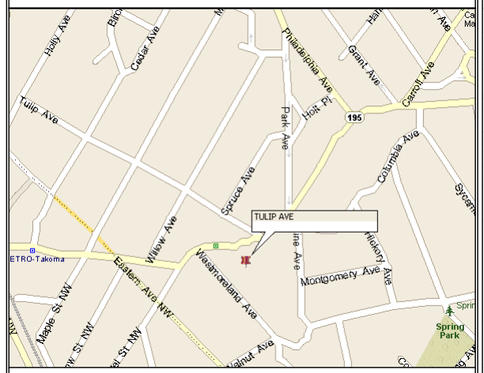
PROJECT SUMMARY

BUILDING OWNER:	TAKOMA TOWER LP
ADDRESS:	7051 CARROLL STREET TAKOMA PARK, MD 20912
SITE ADDRESS:	7051 CARROL STREET TAKOMA PARK, MD 20912
CUSTOMER/APPLICANT:	AT&T MOBILITY 7150 STANDARD DRIVE HANOVER, MD 21076

NAD83

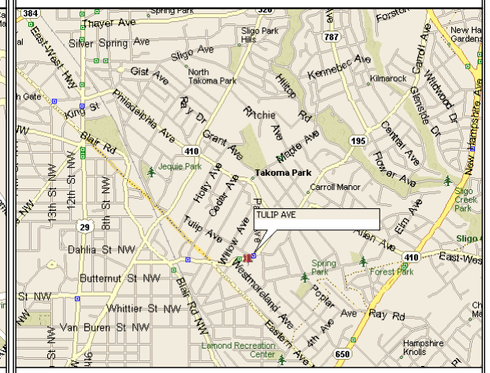
LATITUDE:	38.974747° N
LONGITUDE:	77.010437° W
JURISDICTION:	MONTGOMERY COUNTY
COUNTY:	MONTGOMERY
GROUND ELEVATION:	265' AMSL
OCCUPANCY TYPE:	UNMANNED
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION

AREA MAP



NO SCALE

LOCATION MAP



NO SCALE

DRIVING DIRECTIONS

DEPART 7150 STANDARD DRIVE, HANOVER, MD ON STANDARD DR. TURN LEFT ONTO PARKWAY DR, THEN IMMEDIATELY TURN RIGHT ONTO PARK CIRCLE DR. TURN LEFT ONTO COCA COLA DR. TAKE RAMP ONTO MD-100. AT EXIT 5A-B, KEEP RIGHT ONTO RAMP. TAKE RAMP ONTO I-95. AT EXIT 27, TURN RIGHT ONTO RAMP. TAKE RAMP ONTO I-495 [I-495 OUTERLOOP]. AT EXIT 28B, TAKE RAMP ONTO MD-650 [NEW HAMPSHIRE AVE]. TURN RIGHT ONTO MD-410 [ETHAN ALLEN AVE]. KEEP STRAIGHT ONTO MD-195 [CARROLL AVE]. TURN LEFT ONTO LOCAL ROAD. ARRIVE AT TULIP AVE.

CONTACT INFORMATION

A&E FIRM:	B+T GROUP 1717 S. BOULDER, STE. 300 TULSA, OK 74119	ELECTRIC PROVIDER:	PEPCO
CONTACT:	MIKE OAKES	PHONE:	(877) 737-2662
PHONE:	(918) 587-4630	TELCO PROVIDER:	AT&T
		PHONE:	(800) 228-2020

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES:
- REMOVE (3) EXISTING ANTENNAS.
- REMOVE (1) EXISTING POWER PLANT.
- REMOVE EXISTING BATTERIES.
- REMOVE STAND-ALONE DC/FIBER.
- REMOVE (6) EXISTING DC2S.
- REMOVE (1) EXISTING 1900 UMTS CABINET.
- REMOVE (1) EXISTING GSM CABINET.
- REMOVE (2) EXISTING ARGUS CONVERTER SHELVES.
- INSTALL (2) NEW ANTENNAS AT 129'-0".
- INSTALL (1) NEW ANTENNAS AT 116'-0".
- INSTALL (3) NEW RRHS.
- INSTALL (3) NEW DC9-48-60-24-16PC-EV RAYCAPS.
- INSTALL (1) NEW EMERSON NETSURE 721 POWER PLANT.
- INSTALL (10) NEW RECTIFIERS & (4) CONVERTERS.
- INSTALL (1) NEW BATTERY RACK W/ (5) NEW -48 170MHA BATTERY STRINGS.
- INSTALL (2) NEW DC12-RM.
- INSTALL (3) NEW FIBER TRUNKS & (9) DC TRUNKS.
- MODIFY EXISTING RRU SLED MOUNT PER MOUNT ANALYSIS BY B+T GROUP DATED 5/12/20.

DO NOT SCALE DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11x17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SEE SHEET GN-1 FOR ADDITIONAL CONSTRUCTION NOTES

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING/DWELLING	IBC 2018
STRUCTURAL	IBC 2018
MECHANICAL	IMC 2018
ELECTRICAL	NEC 2017

DRAWING INDEX

SHEET #	SHEET DESCRIPTION	REV. #
T-1	TITLE SHEET	0
GN-1,GN-2	GENERAL NOTES	0
C-1	OVERALL SITE PLAN	0
C-2	ENLARGED SITE PLAN	0
C-3	BUILDING ELEVATION	0
C-3.1	EXISTING AZIMUTH PLANS	0
C-3.2	PROPOSED AZIMUTH PLANS	0
C-4	EQUIPMENT INFO	0
C-4.1	RRH MOUNTING DETAIL	0
C-4.2	ANTENNA CABLE SCHEDULE	0
E-1	DC SURGE SHELF LAYOUT	0
E-2,E-2.1	RAYCAP DC9 WIRING DIAGRAM & MOUNTING DETAIL	0
E-3,E-3.1	WIRING DIAGRAMS	0
E-4	SYSTEM DIAGRAM	0
E-5	ALARM BLOCK DETAIL	0
E-6 - 6.1	EMERSON NETSURE 721 DETAILS & SPECS	0
E-7	POWER LOAD CALCULATIONS	0
E-8	AC/DC PANEL SCHEDULE	0
G-1	GROUNDING DETAILS	0
RF-1	PLUMBING DIAGRAM	0
SK-2	MOUNT MODIFICATION	-

A/E DOCUMENT REVIEW STATUS

TITLE	SIGNATURE	DATE
AT&T CONSTRUCTION MGR:		
SMARTLINK PM:		
RF ENGINEER:		
ZONING APPROVAL:		
SITE ACQUISITION:		
PROPERTY OWNER:		
STATUS CODE:		
1	ACCEPTED: WITH OR NO COMMENTS, CONSTRUCTION MAY PROCEED	
2	NOT ACCEPTED: RESOLVE COMMENTS AND RESUBMIT	

ACCEPTANCE DOES NOT CONSTITUTE APPROVAL OF DESIGN, CALCULATIONS, ANALYSIS, TEST METHODS OF MATERIALS DEVELOPED OR SELECTED BY THE SUBCONTRACTOR AND DOES NOT RELIEVE SUBCONTRACTOR FROM FULL COMPLIANCE WITH CONTRACTUAL OBLIGATIONS.

CALL MARYLAND ONE CALL
(800) 282-8555
CALL 3 WORKING DAYS
BEFORE YOU DIG!

811

PROJECT NO:	142211.003.01
CHECKED BY:	FWP

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
A	4/6/20	STH	PRELIMINARY REVIEW
B	6/4/20	GEH	PRELIMINARY REVIEW
C	6/10/20	MTJ	PRELIMINARY REVIEW
0	6/10/20	MTJ	CONSTRUCTION

B&T ENGINEERING, INC.
07-48491
Expires 1/19/22

STATE OF MARYLAND
JOHN W. KELLY
NO. 21431
REGISTERED
PROFESSIONAL ENGINEER

6/10/20

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

REVISION:	SHEET NUMBER:
0	T-1

142211_10072888_Tulip Ave.dwg — Sheet:T-1 — User: rcarson — Jun 10, 2020 — 3:31pm

B+T GRP

AT&T

smartlink

USID: 3939
FA: 10072888
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7051 CARROL STREET
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B&T ENGINEERING, INC.
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STATE OF MARYLAND
PROFESSIONAL ENGINEER
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REVISION:	SHEET NUMBER:
0	GN-1

PROJECT COMPLIANCE NOTES:

1. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE AND IS NOT FOR HUMAN HABITAT. (NO HANDICAP ACCESS IS REQUIRED).
2. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.
3. NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS PROPOSAL, UNLESS DURING EMERGENCY.
4. OUTDOOR STORAGE AND SOLID WASTE CONTAINERS ARE NOT PROPOSED.
5. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST AT&T SYSTEM GROUNDING STANDARDS. "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF LTE SITES AND WILL FOLLOW AT&T GROUNDING AND BONDING REQUIREMENTS FOR NETWORK FACILITIES AT&T DOC ID ATT–TP–76416 AND AT&T POLICY LETTER ATT–CEM–13002.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED DURING CONSTRUCTION OPERATION.
7. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
8. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM DRAWINGS PROVIDED BY THE APPLICANT REPRESENTATIVE. THE CONTRACTOR SHALL NOTIFY TURF VENDOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
9. NO ADDITIONAL PARKING IS PROPOSED. EXISTING ACCESS AND PARKING WILL BE USED.
10. NO ADDITIONAL LANDSCAPING IS PROPOSED AT THIS SITE.
11. ALL COAXIAL CABLE/FIBER AND DC CABLE INSTALLATION IS TO FOLLOW MANUFACTURER'S INSTRUCTION.

GREENFIELD GROUNDING NOTES:

ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

THE SUBCONTRACTOR SHALL PERFORM IEEE FALL–OF–POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.

METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 AWG SOLID TINNED COPPER FOR OUTDOOR BTS.

CONNECTIONS TO THE GROUND BAR SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BAR ARE PERMITTED.

ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.

ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.

EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.

COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.

ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.

MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

BOND ALL METALLIC OBJECTS WITHIN 6 FT. OF MAIN GROUND WIRES WITH 1–#2 AWG TIN–PLATED COPPER GROUND CONDUCTOR.

GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS, WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON–METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.

ELECTRICAL INSTALLATION NOTES:

ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

WIRING, RACEWAY & SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.

ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.

CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.

EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR APPROVED EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.

ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH PLASTIC TAPE PER COLOR SCHEDULE. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (I.E. PANEL BOARD AND CIRCUIT ID'S).

PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.

ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

POWER, CONTROL AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET & DRY) OPERATION LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED UNLESS OTHERWISE SPECIFIED.

SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED UNLESS OTHERWISE SPECIFIED.

POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION WITH OUTER JACKET LISTED OR LABELED FOR THE LOCATION USED UNLESS OTHERWISE SPECIFIED.

ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR APPROVED EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75° C (90° C IF AVAILABLE).

RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E. RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT) OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

RIGID NONMETALLIC CONDUIT (I.E. RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.

CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS; SHALL BE PANDUIT TYPE E (OR APPROVED EQUAL); AND RATED NEMA 1 (OR BETTER).

EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND RATED NEMA 1 (OR BETTER) INDOORS OR NEMA 3R (OR BETTER) OUTDOORS.

METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

INSTALL PLASTIC LABEL ON THE METER CENTER TO SHOW "AT&T WIRELESS".

APPROVED
Montgomery County
Historic Preservation Commission
Sandra I. Heiler

REVIEWED
By Dan.Bruechert at 11:50 am, Jan 19, 2021

142211_10072888_Tulip Ave.dwg – Sheet:GN-1 – User: rcarson – Jun 10, 2020 – 3:31pm

B+T GRP

AT&T

smartlink

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0	6/10/20	MTJ	CONSTRUCTION

B&T ENGINEERING, INC.
07-48491
Expires 1/19/22

STATE OF MARYLAND
JOHN W. KELLER
No. 21409
REGISTERED
PROFESSIONAL ENGINEER
6/10/20

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REVISION:	SHEET NUMBER:
0	GN-2

PROJECT GENERAL NOTES:

1. OR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR– _____
   SUBCONTRACTOR– GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER– AT&T
   OEM– ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO SCALE AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWINGS.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. CONSTRUCTION SHALL COMPLY WITH MOBILITY RAN POWER & INFRASTRUCTURE HARDWARE POLICY ATT-CEM-18006, "HOSE CLAMP & METAL SNAP-IN SUPPORTS PIM PROBLEM RESOLUTION". CONTRACTORS DOING WORK IN THE HIGH RISK PIM ZONE AREAS ARE TO MINIMIZE OR ELIMINATE EXTERNAL PIM SOURCES CAUSED BY CLAMPS AND CABLING.

ABBREVIATIONS AND SYMBOLS:

ABBREVIATIONS:

AGL	ABOVE GRADE LEVEL
BTS	BASE TRANSCEIVER STATION
(E)	EXISTING
MIN.	MINIMUM
N.T.S.	NOT TO SCALE
REF	REFERENCE
RF	RADIO FREQUENCY
T.B.D.	TO BE DETERMINED
T.B.R.	TO BE RESOLVED
TYP	TYPICAL
REQ	REQUIRED
EGR	EQUIPMENT GROUND RING
AWG	AMERICAN WIRE GAUGE
MGB	MASTER GROUND BAR
EG	EQUIPMENT GROUND
BCW	BARE COPPER WIRE
SIAD	SMART INTEGRATED ACCESS DEVICE
GEN	GENERATOR
IGR	INTERIOR GROUND RING (HALO)
RBS	RADIO BASE STATION

SYMBOLS:

S/G	SOLID GROUND BUS BAR
S/N	SOLID NEUTRAL BUS BAR
	SUPPLEMENTAL GROUND CONDUCTOR
	2-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
	SINGLE-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
	CHEMICAL GROUND ROD
	TEST WELL
	DISCONNECT SWITCH
M	METER

APPROVED
Montgomery County
Historic Preservation Commission

Sandra A. Heiler

REVIEWED
By Dan.Bruechert at 11:51 am, Jan 19, 2021

142211_10072888_Tulip Ave.dwg – Sheet:GN-2 – User: rcarson – Jun 10, 2020 – 3:31pm

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AT&T

smartlink

USID: 3939
FA: 10072888
TULIP AVE
7051 CARROL STREET
TAKOMA PARK, MD 20912
EXISTING ROOFTOP

PROJECT NO:	142211.003.01
CHECKED BY:	FWP

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
A	4/6/20	STH	PRELIMINARY REVIEW
B	6/4/20	GEH	PRELIMINARY REVIEW
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0	6/10/20	MTJ	CONSTRUCTION

B&T ENGINEERING, INC.
07-48491
Expires 1/19/22

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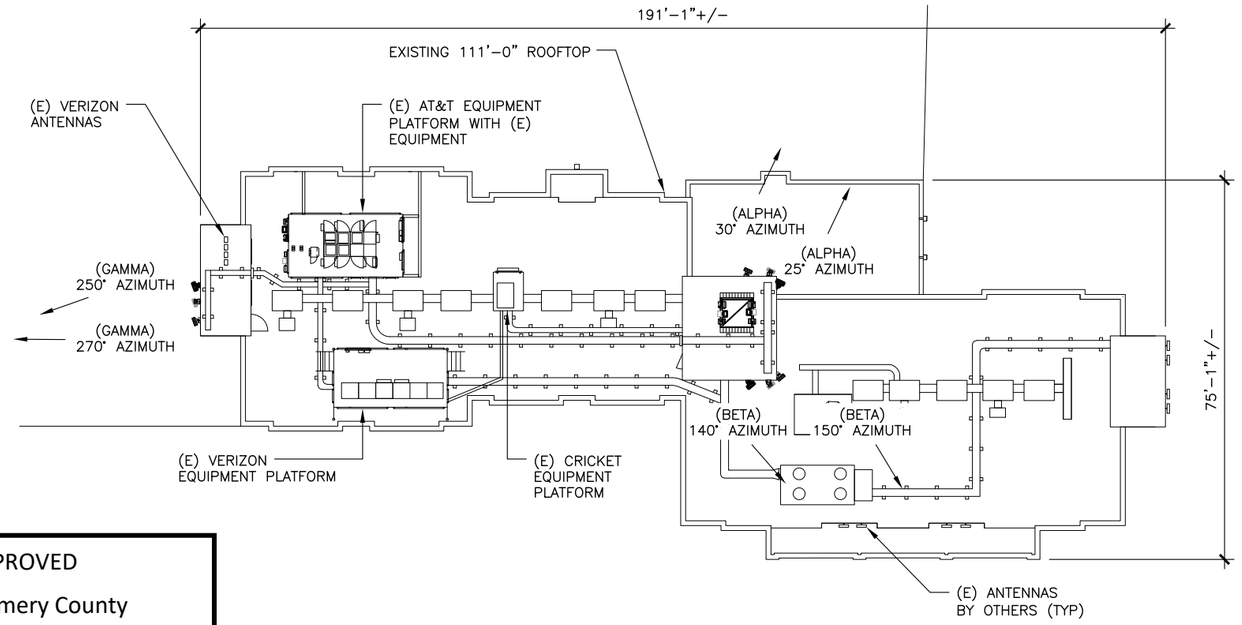
REVISION:	SHEET NUMBER:
0	C-1

1. THE SUBCONTRACTOR SHALL GIVE ALL NOTICES AND REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE SUBCONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID SUBCONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE SUBCONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE AT&T REPRESENTATIVE (B&T ENGINEERING) OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF SUBCONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE SUBCONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIAL AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE SUBCONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE THEMSELVES WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE SUBCONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS INFORMED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE SUBCONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE, UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS, AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEERING, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE SUBCONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVEMENTS, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE SUBCONTRACTOR SHALL REPAIR ANY DAMAGE THE MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE SUBCONTRACTOR SHALL MAINTAIN THE GENERAL WORK AREA AS CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST OR SMUDGES OF ANY NATURE.
13. THE SUBCONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE SUBCONTRACTOR SHALL NOTIFY THE AT&T REPRESENTATIVE (B&T ENGINEERING) WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE SUBCONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE AT&T REPRESENTATIVE (B&T ENGINEERIN
15. THE SUBCONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOBS.



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Montgomery County
Historic Preservation Commission

REVIEWED
By Dan.Bruechert at 11:51 am, Jan 19, 2021

1 OVERALL SITE PLAN
SCALE: 1"=30'

N

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TAKOMA PARK, MD 20912
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B&T ENGINEERING, INC.
07-48491
Expires 1/19/22

STATE OF MARYLAND
JOHN W. KELLY
No. 21
REGISTERED
PROFESSIONAL ENGINEER
6/10/20

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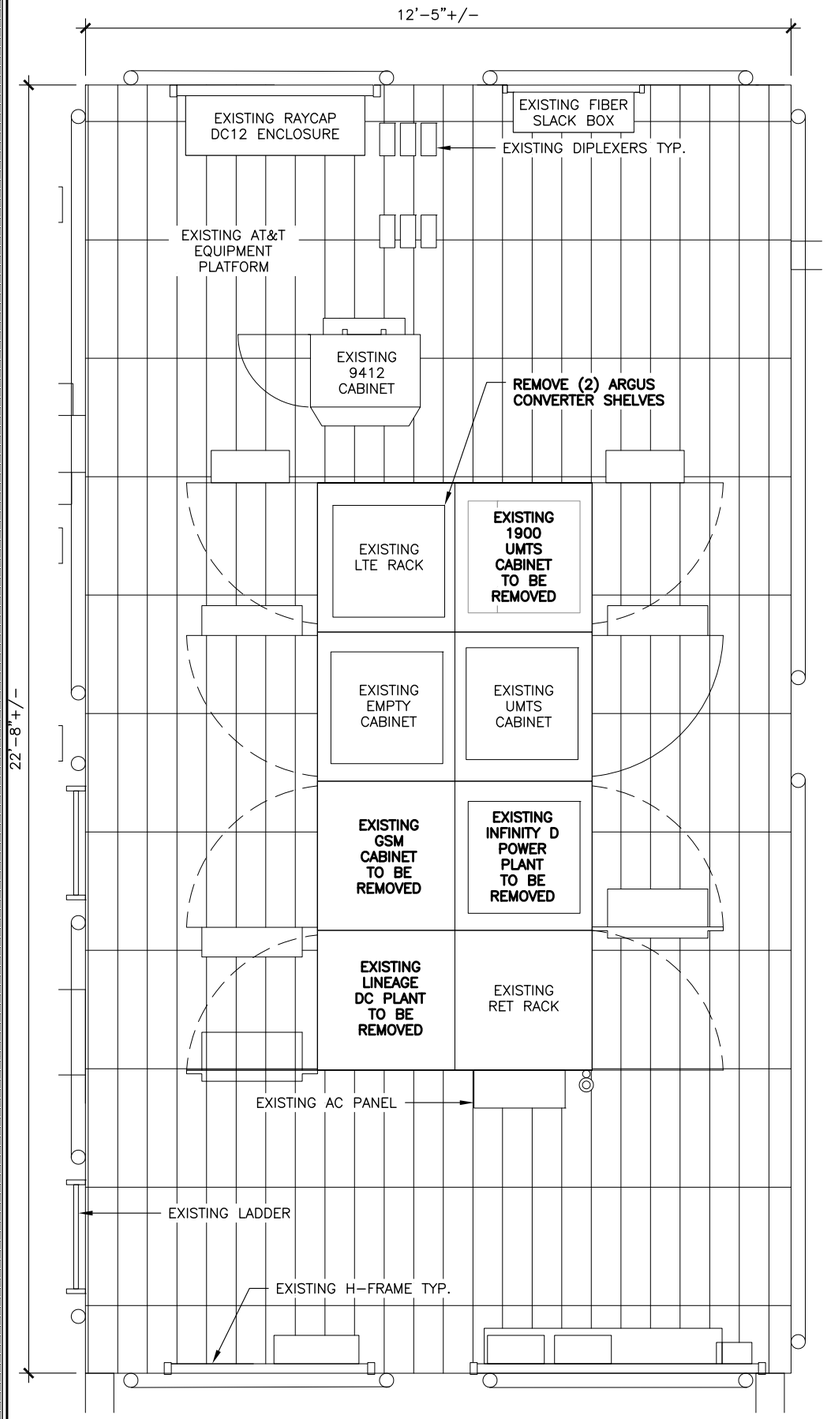
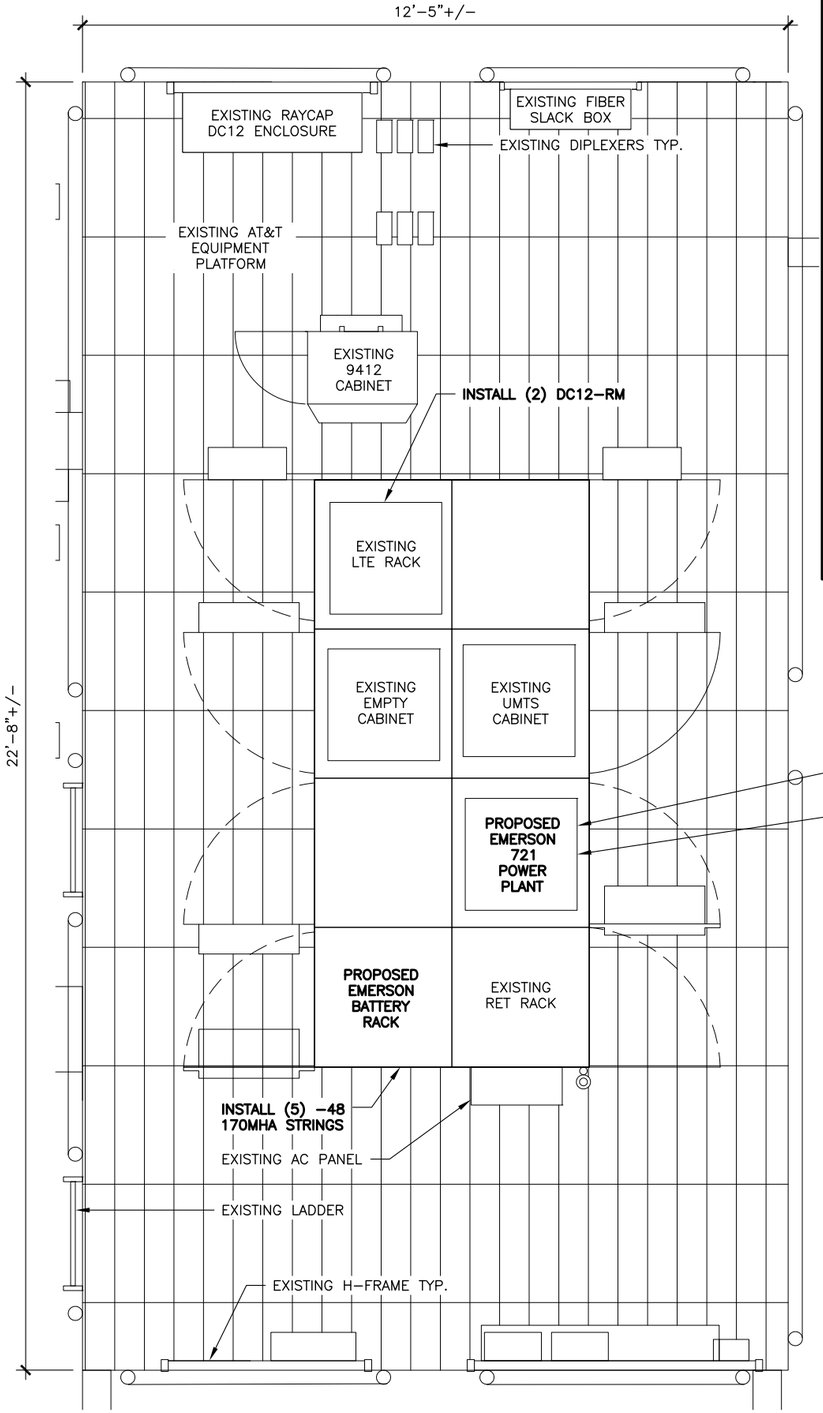


1 ENLARGED SITE PLAN
SCALE: 0' 8' 16' 32' 64'

N



2 PROPOSED SITE PLAN
SCALE: 0' 8' 16' 32' 64'

N

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Montgomery County
Historic Preservation Commission

Sandra J. Heiler

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0	C-3

NOTE:
THESE DRAWINGS ARE NOT INTENDED TO REFLECT THE STRUCTURAL INTEGRITY OF THE TOWER. THE PROPOSED ANTENNAS AND TRANSMISSION LINES SHOWN ARE REPRESENTATIVE IN NATURE AND DO NOT REFLECT THE ACTUAL CONFIGURATIONS REQUIRED. THE CONTRACTOR SHALL REFER TO THE STRUCTURAL ANALYSIS OF THIS TOWER SITE FOR THE APPROVED LOCATION AND CONFIGURATION OF ALL ANTENNAS AND TRANSMISSION LINES. ALL ANTENNAS MUST BE MOUNTED AND THE TRANSMISSION LINES CONFIGURED IN STRICT ACCORDANCE WITH THE STRUCTURAL ANALYSIS.

STRUCTURAL ANALYSIS NOTES:

1. ANTENNA PLACEMENT WAS DETERMINED WITHOUT VERIFICATION OF STRUCTURAL ANALYSIS.
2. REFER TO STRUCTURAL ANALYSIS OR STRUCTURAL LETTER FOR APPROVAL OF ADDITIONAL NEW APPURTENANCES.

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Montgomery County
Historic Preservation Commission

Sandra A. Heiler

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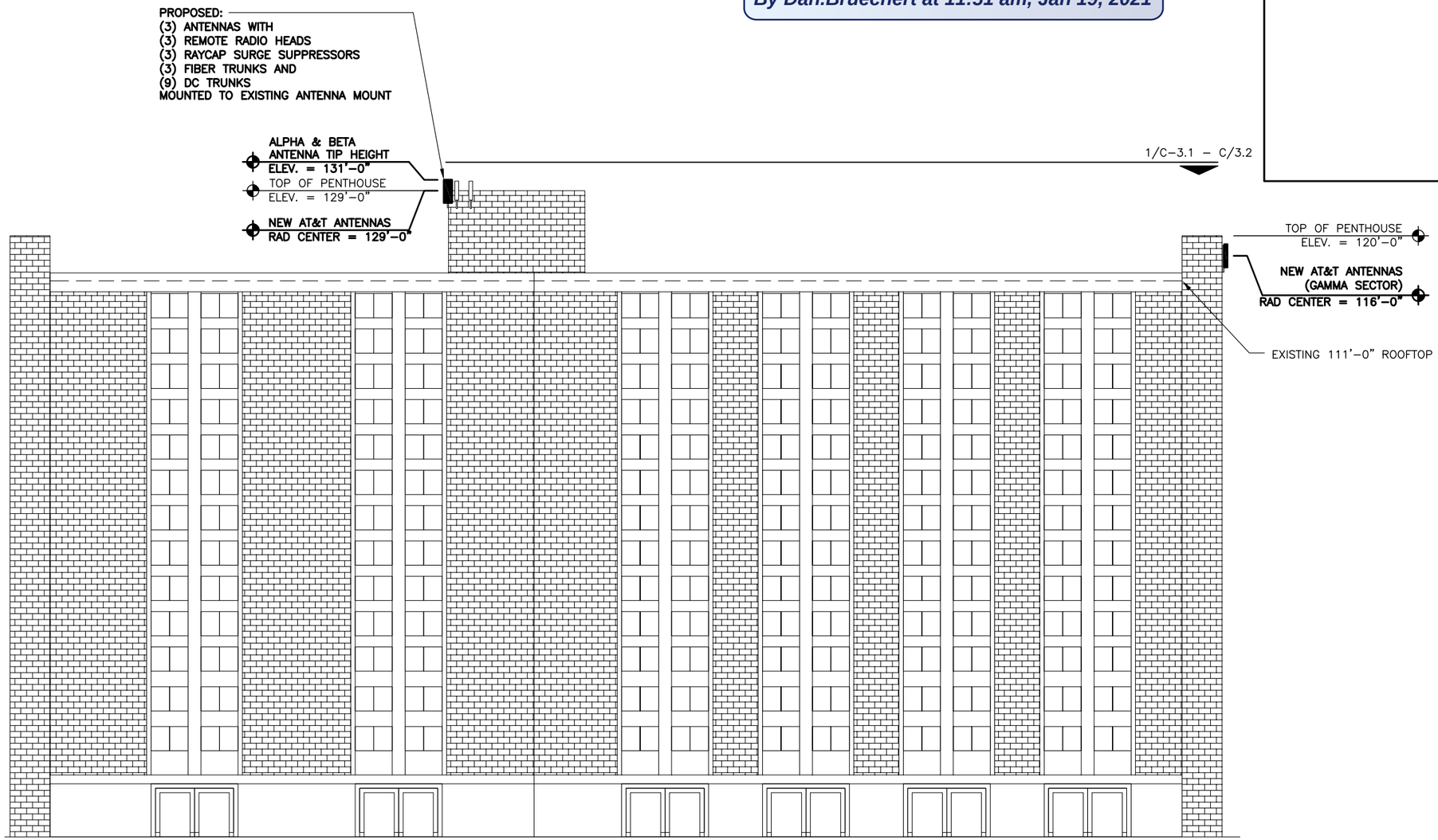
By Dan.Bruechert at 11:51 am, Jan 19, 2021



1 BUILDING ELEVATION
SCALE: N.T.S.

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STATE OF MARYLAND
JOHN W. KELLY
NO. 21609
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PROFESSIONAL ENGINEER
6/10/20

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0	C-3.1

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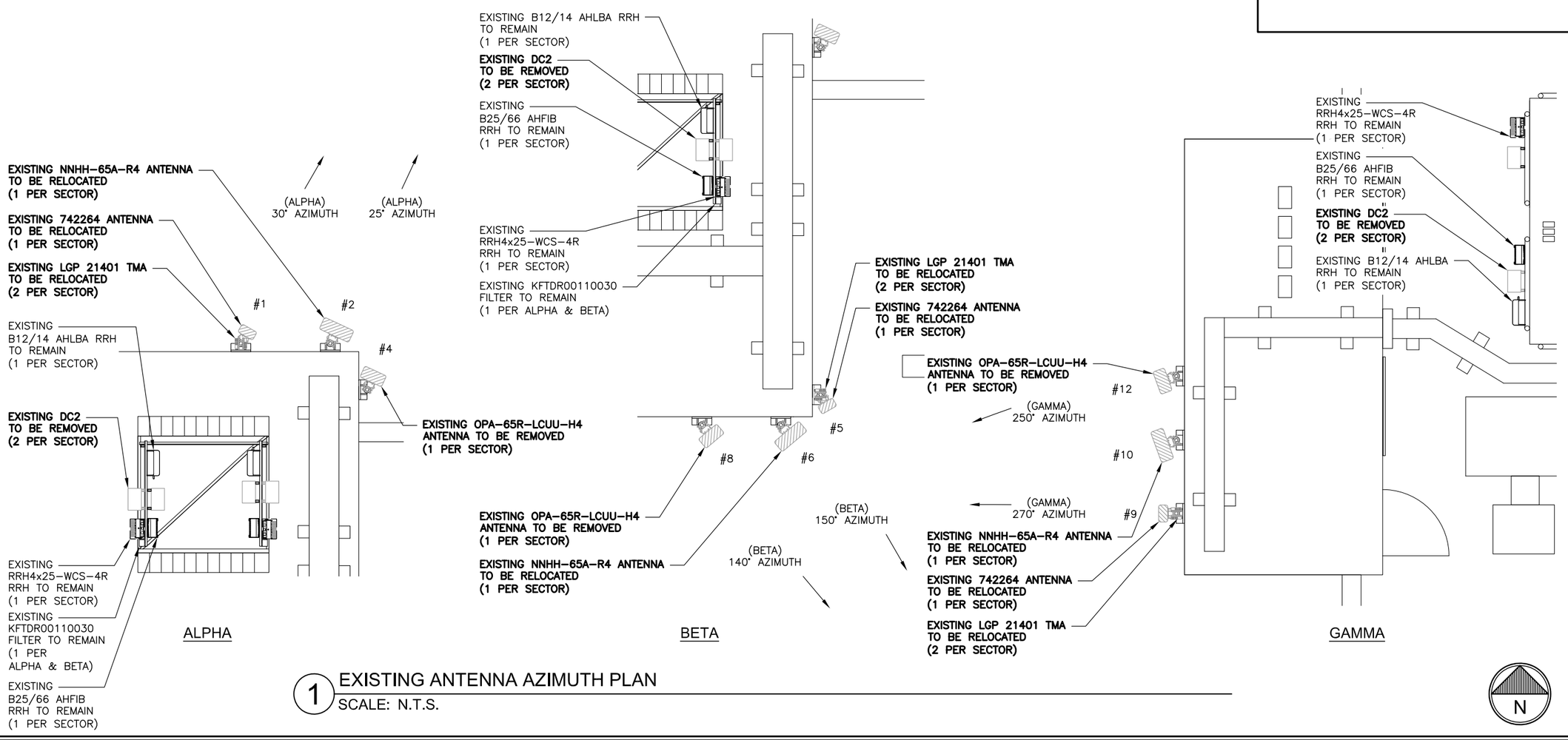

1 EXISTING ANTENNA AZIMUTH PLAN

SCALE: N.T.S.

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USID: 3939
FA: 10072888
TULIP AVE
7051 CARROL STREET
TAKOMA PARK, MD 20912
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STATE OF MARYLAND
JOHN W. KELLY
No. 21401
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REVISION:	SHEET NUMBER:
0	C-3.2

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NOTE:
PROPOSED ANTENNA LAYOUT REQUIRES DEVIATION FROM RFDS TO REMAIN COMPLIANT WITH AT&T'S RFDS SCOPING GUIDELINES DATED 2/26/20 & THE NEW ENGLAND B14 DEPLOYMENT GUIDELINES DATED 3/3/20.

APPROVED
Montgomery County
Historic Preservation Commission

Sandra A. Heiler

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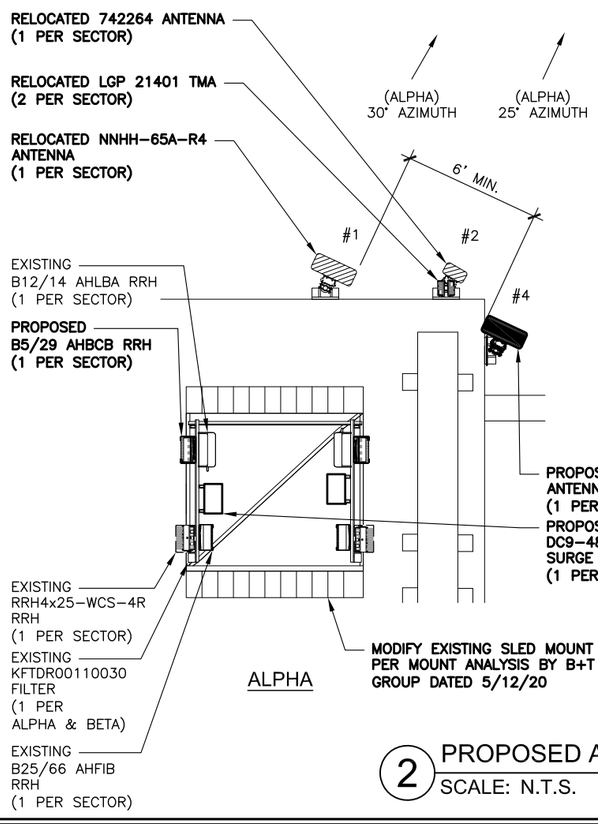
By Dan.Bruechert at 11:52 am, Jan 19, 2021



2 PROPOSED ANTENNA AZIMUTH PLAN
SCALE: N.T.S.

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7051 CARROL STREET
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STATE OF MARYLAND
JOHN W. KELLY
No. 21611
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REVISION:	SHEET NUMBER:
0	C-4

142211_10072888_Tulip Ave.dwg – Sheet:C-4 – User: rcarson – Jun 10, 2020 – 3:31pm

ANTENNA CABLE AND ACCESSORY NOTES AND REQUIREMENTS:

1. GENERAL: PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY FOR RECEIVING, INSTALLING, TESTING, AND ADJUSTING ANTENNA CABLES FROM THE ANTENNA TO THE CONNECTIONS AT THE BASE TRANSCEIVER STATION (BTS). THIS SHALL INCLUDE ALL EQUIPMENT SHOWN OR REQUIRED FOR A COMPLETE OPERATING SYSTEM. ANTENNA, ANTENNA CABLES, CONNECTORS, AND FITTINGS SHALL BE THIRD PARTY FURNISHED COMPONENTS AS SHOWN ON THE BILL OF MATERIALS.

2. MATERIALS

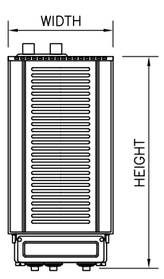
   A. ANTENNA CABLES: AS SCHEDULED
   B. ANTENNA CONNECTORS: AS SCHEDULED
   C. CABLE HANGERS: INSTALLED AT MAXIMUM 18" SPACING
   D. GROUNDING KITS: AS SPECIFIED

3. INSTALLATION

   A. ANTENNA CABLE LENGTHS SHALL BE FIELD MEASURED. INSTALLER SHALL NOTIFY AT&T PRIOR TO PURCHASE OF CABLE OF THE OVERALL LENGTH REQUIRED.
   B. CABLES SHALL BE LABELED IN ACCORDANCE WITH AT&T ELECTRICAL MATERIALS AND METHODS SPECIFICATIONS.
   C. ALL CABLE CONNECTIONS OUTSIDE SHALL BE COVERED WITH WEATHERPROOFING TAPE.
   D. THE MINIMUM BENDING RADIUS FOR ALL ANTENNA CABLES SHALL BE AS SHOWN BELOW OR PER THE MANUFACTURER, WHICHEVER IS MORE CONSERVATIVE:

CABLE	IN AIR OR CABLE TRAY	IN CONDUIT
1/2"	5"	10"
7/8"	10"	18"
1-5/8"	20"	28"

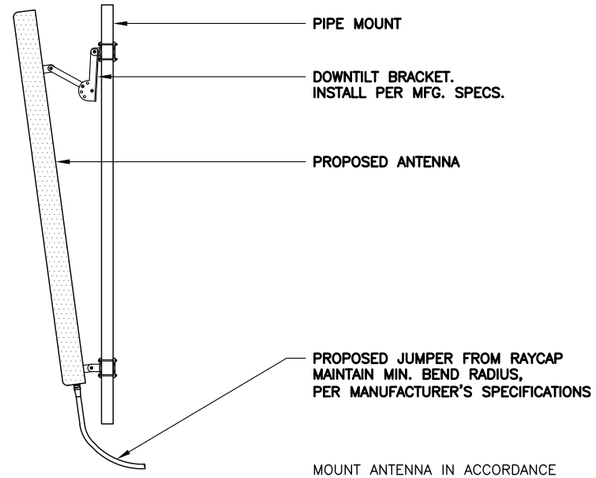
   E. CABLES SHALL BE INSTALLED WITH THE MINIMUM NUMBER OF BENDS. CABLE SHALL NOT BE LEFT UNTERMINATED IN THE FIELD. NO BENDS WILL BE ACCEPTED IF WITHIN 5" OF CONNECTOR.
   F. GROUNDING KITS: AFTER INSTALLATION OF GROUND STRAPS, THE CONNECTIONS SHALL BE MADE WEATHER TIGHT USING WEATHERPROOF KITS AS IDENTIFIED ABOVE. GROUND PIGTAILS SHALL BE BROUGHT OUT IN THE DOWNWARD DIRECTION FROM THE CONNECTION TO THE ANTENNA CABLE WITHOUT ANY SHARP BENDS (MINIMUM RADIUS 10") AND CONNECTION SHALL BE MADE TO GROUNDING SYSTEM.



SIZE AND WEIGHT TABLE

RRH	WIDTH	DEPTH	HEIGHT W/O CABLE MANAGEMENT COVER	WEIGHT W/O BRACKET	CONNECTOR TYPE
RRH2X40-07L	11.5"	5.7"	24.8"	50.7 LBS.	7/16 DIN FEMALE
RRH 4T4R B5 AHCA	11.61"	6.5"	13.27"	36.8 LBS.	4.3-10 FEMALE
RRH 4T4R B5/B29 AHBCB	12.13"	5.86"	22.04"	86 LBS.	4.3-10 FEMALE
RRH 4T4R B12/B14 AHLBA	12.13"	6.97"	22.04"	77.2 LBS.	4.3-10 FEMALE
RRH 4T4R B25/B66 AHFIB	12.13"	5.86"	22.04"	66.1 LBS.	4.3-10 FEMALE
FLEXI RRH 4T4R B14 FRBI	13.03"	6.65"	23.03"	57 LBS.	4.3-10 FEMALE
RRH 2X40 AWS	10.63"	24.4"	–	44 LBS.	7/16 DIN FEMALE
RRH2X60W-850 UMTS/LTE	11.5"	9.0"	18.9"	50.8 LBS.	7/16 DIN FEMALE
B25 RRH4x30-4R	11.97"	7.18"	21.2"	52.9 LBS.	7/16 DIN FEMALE
RRH4X25-WCS-4R	12.0"	8.7"	31.5"	70 LBS.	7/16 DIN FEMALE
RRH2X40-07L-AT (RETUNED)	12.2"	6.1"	25.2"	52.5 LBS.	7/16 DIN FEMALE
RRH2X40W-07L DE	12.2"	6.6"	25.2"	55 LBS.	7/16 DIN FEMALE
B66A-RRH4x45	11.9"	7.2"	25.8"	68.34 LBS.	4.3-10 FEMALE

1 RRH DETAIL
SCALE: N.T.S.



2 ANTENNA MOUNT DETAIL
SCALE: N.T.S.

CLEARANCE AND BREAKER SIZE TABLE

RRH	FRONT	REAR	RIGHT	LEFT	TOP	BOTTOM	BREAKER	MIN WIRE SIZE
700 07L-AT	36"	0"	3.94"	3.94"	12"	12"	15 AMP	#12 AWG
700 DE	36"	0"	3.94"	3.94"	12"	12"	15 AMP	#12 AWG
850 UMTS/LTE	39.37"	2.76"	3.94"	3.94"	11.81"	19.67"	15 AMP	#12 AWG
2X60 850, 1900	39.37"	2.76"	3.94"	3.94"	11.81"	19.67"	15 AMP	#12 AWG
2X60 B66 2100	39.37"	2.76"	3.94"	3.94"	11.81"	19.67"	15 AMP	#12 AWG
2X60 1900A 4R	39.37"	2.76"	3.94"	3.94"	11.81"	19.67"	15 AMP	#12 AWG
2X60 B4 1900	39.37"	2.76"	3.94"	3.94"	11.81"	19.67"	20 AMP	#12 AWG
4X30 B25 1900	39.4"	2"	3.1"	3.1"	11.8"	15.7"	20 AMP	#12 AWG
4X30 B30 2300	39.4"	2"	3.9"	3.9"	11.8"	12"	20 AMP	#12 AWG
AWS 2X40	36"	1.97"	3.94"	3.94"	11.82"	12"	15 AMP	#12 AWG
AWS RDEM	36"	1.97"	3.94"	3.94"	11.82"	12"	15 AMP	#12 AWG
AWS B66	39.4"	2"	3.1"	3.1"	11.8"	24"	25 AMP	#10 AWG
B14 160 FRBI	35.4"	0.39"	0.39"	0.39"	24"	12"	20 AMP	#12 AWG
B5 160W AHCA	35.4"	0.39"	0.39"	0.39"	24"	12"	25 AMP	#8 AWG
B25/B66 320W	35.4"	0.39"	0.39"	0.39"	24"	12"	50 AMP	#6 AWG
B12/B14 320W	35.4"	0.39"	0.39"	0.39"	24"	12"	50 AMP	#6 AWG
B5/B29 320W	35.4"	0.39"	0.39"	0.39"	24"	12"	50 AMP	#6 AWG

ALL WIRE & CABLE SHALL BE SIZED BASED ON THE NEC AMPACITY VALUE

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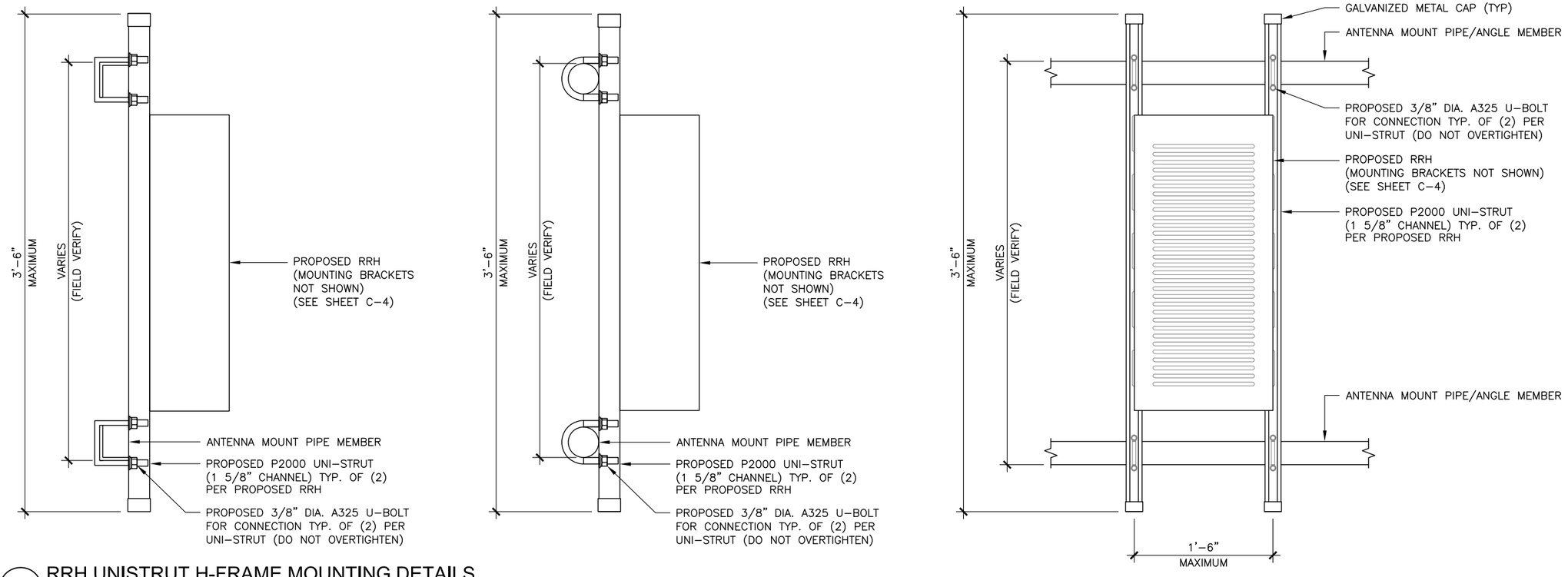

1 RRH UNISTRUT H-FRAME MOUNTING DETAILS
SCALE: N.T.S.

142211_10072888_Tulip Ave.dwg — Sheet:C-4.1 — User: rcarson — Jun 10, 2020 — 3:31pm

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USID: 3939
FA: 10072888
TULIP AVE
7051 CARROL STREET
TAKOMA PARK, MD 20912
EXISTING ROOFTOP

PROJECT NO:	142211.003.01
CHECKED BY:	FWP

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
A	4/6/20	STH	PRELIMINARY REVIEW
B	6/4/20	GEH	PRELIMINARY REVIEW
C	6/10/20	MTJ	PRELIMINARY REVIEW
0	6/10/20	MTJ	CONSTRUCTION

B&T ENGINEERING, INC.
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STATE OF MARYLAND · JOHN W. KELLER · No. 21609 · REGISTERED PROFESSIONAL ENGINEER
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ANTENNA CABLE SCHEDULE

ANTENNA POSITION		AZIMUTH	ANTENNA	RAD CENTER	E TILT	M TILT	COAX SIZE	RRH	TMA	LENGTH	COAX COLOR CODE
SECTOR #1	#2	25°	(E) NNHH-65A-R4	129'-0"	12°/8°/5°/5°/12°	2°	FIBER	(1) B12/14 AHLBA (1) B25/66 AHFIB	–	60'	–
	#2	30°	(E) 742264	129'-0"	7°	0°	(E) 7/8" ANDREW (LDF5-50A)	–	(2) LGP 21401	60'	BROWN/GRAY BROWN/ORANGE
	#4	**25°**	**(N) NNHH-65A-R4**	**129'-0"**	**6°/12°/12°**	**2°**	**FIBER**	**(1) B5/29 AHBCB** (1) RRH4x25-WCS-4R	–	60'	–
SECTOR #2	#1	140°	(E) NNHH-65A-R4	129'-0"	12°/8°/5°/5°/12°	2°	FIBER	(1) B12/14 AHLBA (1) B25/66 AHFIB	–	130'	–
	#2	150°	(E) 742264	129'-0"	6°	0°	(E) 7/8" ANDREW (LDF5-50A)	–	(2) LGP 21401	130'	ORANGE/GRAY ORANGE/ORANGE
	#4	**140°**	**(N) NNHH-65A-R4**	**129'-0"**	**6°/12°/12°**	**2°**	FIBER	**(1) B5/29 AHBCB** (1) RRH4x25-WCS-4R	–	130'	–
SECTOR #3	#1	250°	(E) NNHH-65A-R4	116'-0"	12°/8°/5°/5°/12°	0°	FIBER	(1) B12/14 AHLBA (1) B25/66 AHFIB	–	130'	–
	#2	270°	(E) 742264	116'-0"	2°	0°	(E) 7/8" ANDREW (LDF5-50A)	–	(2) LGP 21401	130'	GREEN/GRAY GREEN/ORANGE
	#4	**250°**	**(N) NNHH-65A-R4**	**116'-0"**	**2°/12°/12°**	**0°**	FIBER	**(1) B5/29 AHBCB** (1) RRH4x25-WCS-4R	–	130'	–

ANTENNA SCHEDULE NOTES:

1. ALL CABLE LENGTHS ARE ESTIMATED AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
2. COLOR TAPE MARKINGS MUST BE 3/4" WIDE AND UV RESISTANT, SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE.
3. CONTRACTOR SHALL COORDINATE COLOR CODING IN THE FIELD WITH AN AT&T REPRESENTATIVE.
4. CONTRACTOR SHALL INSTALL A NON-FERROUS (PLASTIC OR NYLON) IDENTIFICATION TAG 1/2" IN DIAMETER WITH 1/4" STAMPED LETTERS AND NUMBERS. INSTALL TAGS AT PORT CONNECTION NEAR THE END OF JUMPER AND ONE ON THE END NEAR THE RADIO EQUIPMENT. EACH TAG SHALL BE STAMPED WITH "AT&T" AND THE PORT IDENTIFICATION NUMBER.

4. ATT Naming Convention for "RET NAME"

ATT-002-290-125 (Issue 9, 03/06/15)
Antenna Remote Electrical Tilt (RET) Guidelines

Usage: [USID][CellId1][CellId2][CellId3][AntPos][FrequencyBand][Tech]

USID						CellId 1	CellId 2	CellId 3	AntPos	Freq	Tech
1	2	3	4	5	6	7	8	9	10	11	12

Field	Length	Description
USID	6	Six characters that defined the sites USID. USID's less than 6 characters in length are preceded with 0's (zeros) (example:003831)
CellId1	1	Allowed Value: A = Alpha; B = Beta; C = Gamma
CellId2	1	Allowed Value: D = Delta; E = Epsilon
CellId3	1	Allowed Value: F = Zeta; - = No Transmitter connected to this port
AntPos	1	Allowed Value: 1 = Antenna Position 1 on this face; 2 = Antenna Position 2 on this face; 3 = Antenna Position 3 on this face; 4 = Antenna Position 4 on this face; 5 = Antenna Position 5 on this face; - = Antenna Position unknown
FreqBand	1	Allowed Value: 2 = 2100 MHz (AWS); 3 = 2300 MHz (WCS) *** Used to be W; 7 = 700 MHz B & C Band; 8 = 850 MHz; 9 = 1900 MHz (PCS); D = 1900 MHz & 2100 MHz combined; F = 1900 MHz & 2300 MHz combined; H = 2100 MHz & 2300 MHz combined; J = 1900 MHz & 2100 MHz & 2300 MHz combined; K = 700 MHz B &C Band & 850 MHz combined; Q = 700 MHz D & E Band Only; Y = 700 MHz D & E & 850 MHz combined

Field	Length	Description				
		Allowed Value	GSM	UMTS	LTE	Split Sector
Tech	1	G	GSM			
		J	GSM	UMTS		
		F			LTE	
		K	GSM		LTE	
		L			LTE	
		N				
		U		UMTS		
		V		UMTS	LTE	
		Y	GSM	UMTS	LTE	
		H	GSM			Split
		M	GSM	UMTS		Split
		P	GSM		LTE	Split
		Q			LTE	Split
		R				Split
		S		UMTS		Split
		T		UMTS	LTE	Split

❖ F = License Protection/FCC Compliance
Example: Use Tech = "F" for certain cell(s) having issue with 2300 MHz (WCS) and SiriusXM interference

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Sandra A. Heiler

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By Dan.Bruechert at 11:52 am, Jan 19, 2021

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JOHN W. KELLY
No. 21431
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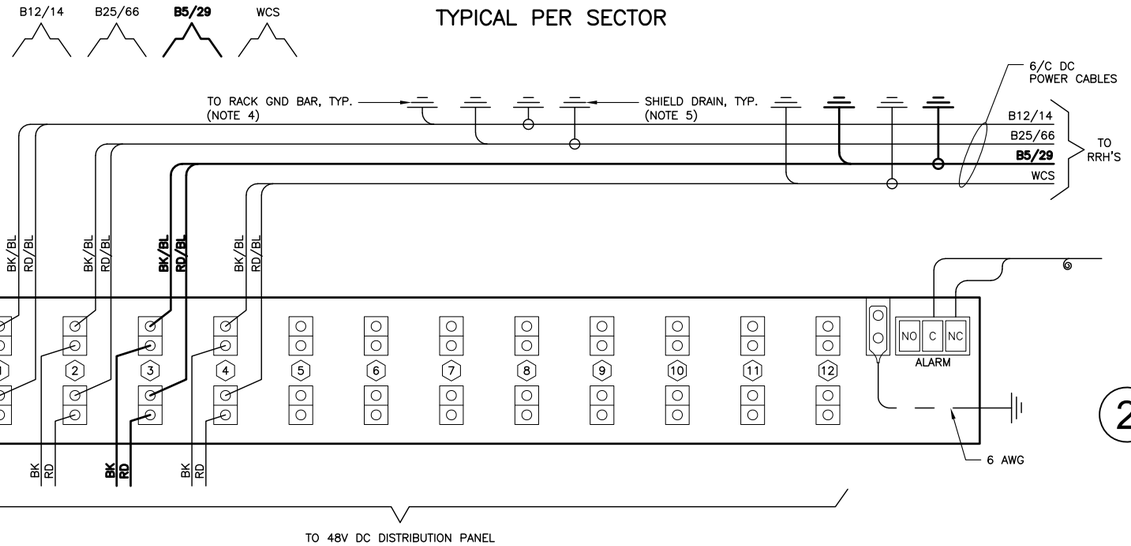


NOTES:

1. SEE SYSTEM DIAGRAM FOR DC POWER CABLE CONDUCTOR SIZES.
2. CABLE TERMINALS FOR POWER CONNECTION SHALL BE COMPRESSION TYPE, 2-HOLE FOR 1/4"-20 STUDS.
3. CABLE TERMINAL FOR GROUND CONNECTION SHALL BE COMPRESSION TYPE, 2-HOLE 1"-CENTERS FOR 1/4"-20 STUDS.
4. CONNECTIONS TO RACK GROUND BAR SHALL BE MADE WITH 2-HOLE COMPRESSION TERMINALS.
5. WHEN SHIELDED CABLE IS USED, CONNECT CABLE SHIELD DRAIN WIRE TO RACK GROUND BAR. THIS CONNECTION SHALL BE INDEPENDENT OF THE CABLE GROUND WIRE CONNECTION.
6. TURN BACK AND STORE UNUSED CONDUCTORS.

1 INDOOR DC SURGE SUPPRESION WIRING DIAGRAM

SCALE: N.T.S.

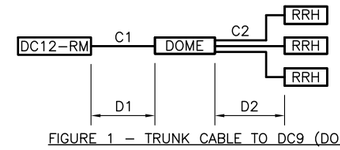


FIGURE 1 – TRUNK CABLE TO DC9 (DOME)

MAXIMUM CABLE LENGTHS FOR FIGURE 1

	D1/D2 LENGTH (FT)		
CABLE	8 AWG	10 AWG	12 AWG
C1	265	165	104
C2	16	16	16

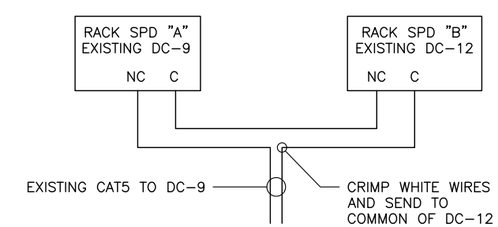
NOTES:

1. CABLE LENGTHS ARE APPLICABLE FOR ALU 700MHZ & AWS FREQUENCY RRH MODELS.
2. NOMINAL SYSTEM VOLTAGE IS -48V DC, SUPPLIED FROM A 48V BATTERY. NORMAL OPERATING VOLTAGE IS 52V.
3. CABLE LENGTHS BASED ON ROSENBERGER CABLES.

LTE CONDUCTOR SIZES

2 LTE CONDUCTOR SIZES

SCALE: N.T.S.



3 DC-9/DC-12 ALARM DAISY CHAIN DETAIL

SCALE: N.T.S.

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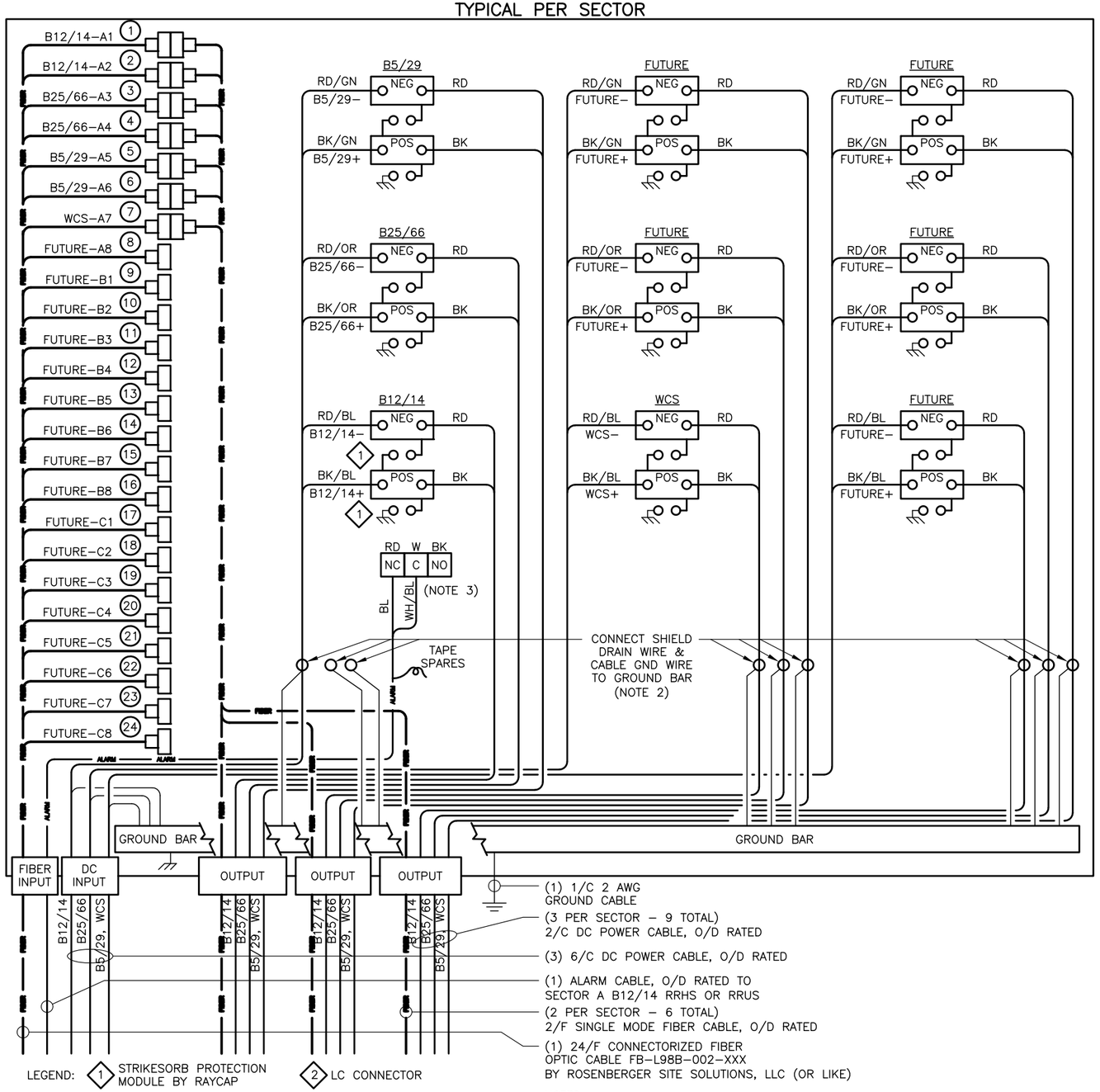
TYPICAL PER SECTOR



CONNECTION DIAGRAM DC SURGE SUPPRESSION
SYSTEM DC9-48-60-24-16PC-EV (BY RAYCAP)

NOTES:

1. SEE SYSTEM DIAGRAM FOR CONDUCTOR SIZES.
2. WHEN SHIELDED CABLE IS USED, CONNECT CABLE SHIELD DRAIN WIRE AND GROUND WIRE TO GROUND BAR.
3. INSTALL RAYCAP PROVIDED LOOP-BACK CONNECTOR ON THE LAST ACTIVE (POWERED) MODULE WHEN FEWER THAN 6 RRHS OR RRUS ARE DEPLOYED.

1 DC SURGE PROTECTION SYSTEM
SCALE: N.T.S.

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Montgomery County
Historic Preservation Commission

Sandra J. Heiler

REVIEWED
By Dan.Bruechert at 11:52 am, Jan 19, 2021

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DATA SHEET

DC Surge Protection Solutions - Outdoor Rated

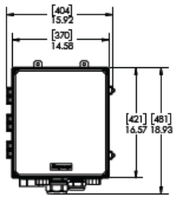
DC9-48-60-24-PC16-EV

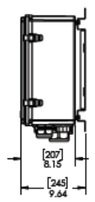
Overvoltage Protection and Fiber Distribution/Cable Management Junction Box

Rooftop

The DC9-48-60-24-PC16-EV is designed to be the most robust lightning and power surge protector available for rooftop equipment in distributed node B or e-node B applications. The flexible design provides electrical protection and fiber distribution cable management at rooftop or towertop sectors. The solution employs the patented Strikesorb® 30-V1-2CEV surge protective device (SPD), capable of providing 12.5kA (10/350µs) of surge capacity for up to 9 -48V DC circuits.

powered by Strikesorb®





Features

- Provides protection for nine individual -48V DC Remote Radio Heads
- Fiber connections for up to 24 pair of fiber
- Simplifies inter-connectivity and cable management for DC conductors
- Impulse discharge current of 12.5kA 10/350 µs
- UL 1449 4th Edition Type 2 surge protective device
- IEC 61643-11 Class I protection for DC applications
- NEMA 4x rated enclosure
- Unit ships with conduit fittings for input of DC power and fiber. Gland kits available for applications needing glands.
- Galvanized steel bracket with mounting options to include Pole Mount, Wood Pole, Wall Mount or Banding.
- Patent pending

Benefits

- Strikesorb modules are fully recognized components to UL 1449 4th Edition, meeting all intermediate and high current fault requirements to facilitate use in original equipment manufacturers (OEM) applications. Strikesorb modules are also VDE certified according to IEC 61643-11 standard
- Strikesorb offers unique maintenance-free protection against direct lightning currents
- NEMA 4x enclosure allows for indoor or outdoor installation

Raycap www.raycap.com

Strikesorb is a registered trademark of Raycap
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G02-01-811 191101

SPECIFICATIONS

DC Surge Protection Solutions - Outdoor Rated

DC9-48-60-24-PC16-EV

Overvoltage Protection and Fiber Distribution/Cable Management Junction Box

powered by Strikesorb®

Electrical		
Model Number		DC9-48-60-24-PC16-EV
OEQ / ANT Number		CEQ. 44867
Number of Circuits Protected		9
Surge Protective Device (SPD) Type per UL 1449 4th Edition		Type 2
Surge Protective Device Class per IEC 61643-11		Class I
Nominal Operating DC Voltage [U_c]		-48 VDC
Maximum Continuous Operating DC Voltage [V_{dcmcov}]		60 VDC
Impulse Discharge Current [I_{nn}] per IEC 61643-11		12.5 kA 10/350 µs
Voltage Protection Level [U_p] at 12.5kA per IEC 61643-11		160 V
Voltage Protection Level [U_p] at 5kA per IEC 61643-11		145 V
Voltage Protection Rating (VPR) per UL 1449 4th Edition		330 V
Suppression Technology		MOV
Strikesorb Module Type 20A (UL 1449 4th edition)		30-V1-2CEV
Protection Modes:	Normal Mode	-48V to Return
	Common Mode	Return to Ground
Mechanical		
Connection Terminal (Suppression) Method		Compression lug 2 hole, #10, 5/8 pitch, 12-4 AWG [3.31-21 mm²]
Connection Terminal (Ground) Method		Compression lug 2 hole, #10, 5/8 pitch, 12-4 AWG [3.31-21 mm²]
Connection Terminal (Drain) Method		Compression lug 1 hole, #10, 12-4 AWG [3.31-21 mm²]
Connection Terminal (Fiber) Method		LC-LC Single Mode
Operating Temperature (°C)		-35° C to +65° C
Storage Temperature (°C)		-40° C to +80° C
Cold Temperature Cycling IEC 61300-2-22		-30° C to +60° C 200 hrs @5 PSI
Resistance to Aggressive Materials OEI IEC 61073-2		Including Acids and Bases
UV Protection ISO 4892-2 Method A		Xenon-Arc 2160 hrs UL F-1
Enclosure Type		Outdoor - NEMA 4x Rated
Enclosure Dimensions (L x W x H)		16.34" x 16.57" x 8.19" [415 x 421 x 208 mm]
Weight		34.9 lbs [15.83 kg]
Combined Wind Loading	Sustained	150 mph Sustained: 110.5 lbs [601 N]
	Gust	195 mph Gust: 186.8 lbs [1016 N]
Available Kits		
DC9-48-60-24-PC16-EV / 8AWG Gland Kit		CEQ. 44870
DC9-48-60-24-PC16-EV / 6AWG Gland Kit		CEQ. 44864
DC9-48-60-24-PC16-EV / 4AWG Gland Kit		CEQ. 44865
Standards Compliance & Certifications		
Strikesorb modules are compliant to the following Surge Protection Device Standards:		
Standards:		UL 1449 4th Edition: 2011, IEC 61643-11: 2011, EN 61643-11: 2012, IEEE C62.11: 2005, IEEE C62.41: 2002, IEEE C62.45: 2002, NEMA-LS-1
Certifications:		UL, VDE, CE

Each gland kit contains three glands and three inserts.Insert hole sizes are based on which kit is ordered, 4AWG, 6AWG or 8AWG.

AWG=American Wire Gauge

Raycap www.raycap.com

G02-01-811 191101

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Sandra J. Heiler

REVIEWED
By Dan.Bruechert at 11:52 am, Jan 19, 2021

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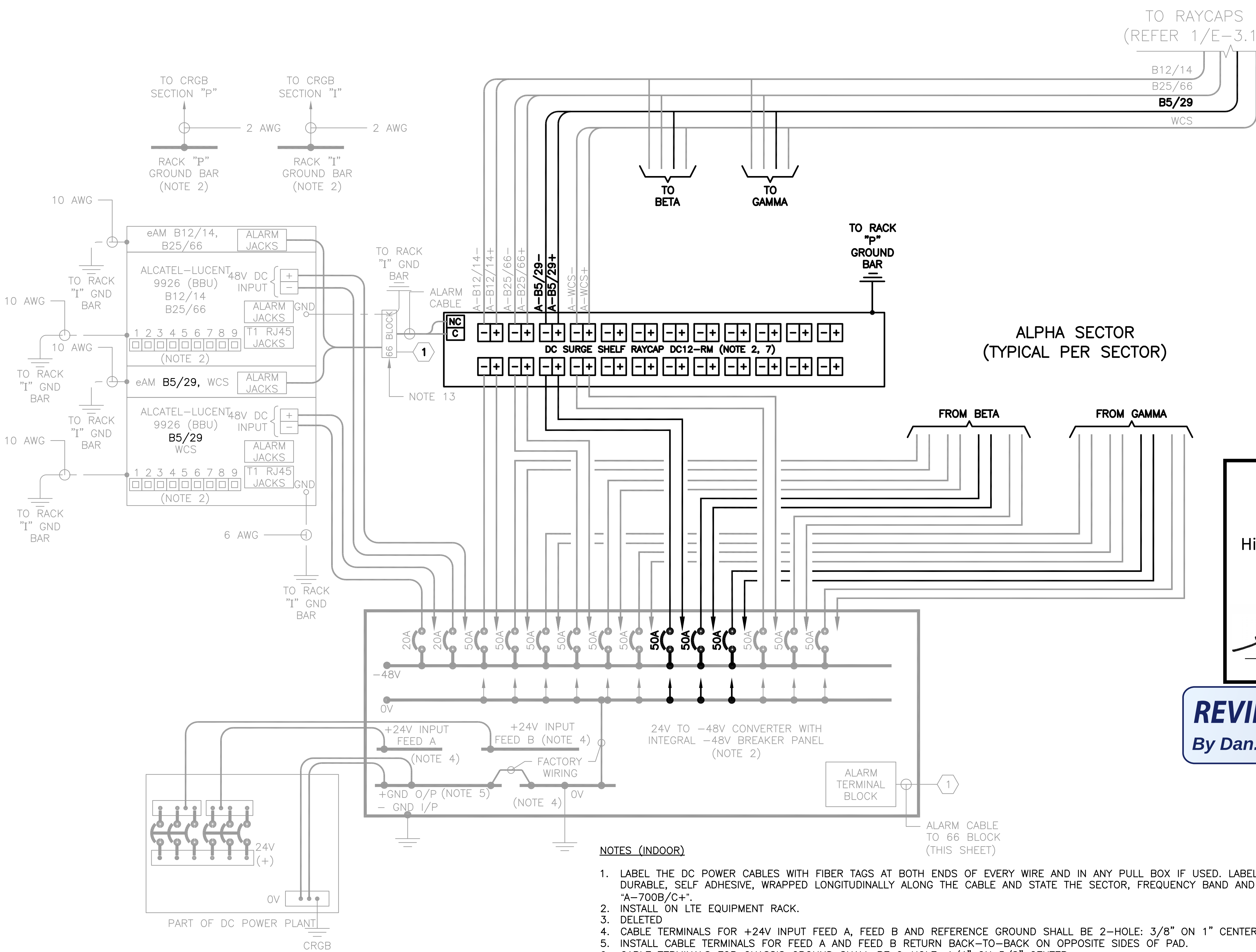

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By Dan.Bruechert at 11:52 am, Jan 19, 2021

NOTES (INDOOR)

1. LABEL THE DC POWER CABLES WITH FIBER TAGS AT BOTH ENDS OF EVERY WIRE AND IN ANY PULL BOX IF USED. LABEL SHALL BE DURABLE, SELF ADHESIVE, WRAPPED LONGITUDINALLY ALONG THE CABLE AND STATE THE SECTOR, FREQUENCY BAND AND POLARITY; I.E. "A-700B/C+".
2. INSTALL ON LTE EQUIPMENT RACK.
3. DELETED
4. CABLE TERMINALS FOR +24V INPUT FEED A, FEED B AND REFERENCE GROUND SHALL BE 2-HOLE: 3/8" ON 1" CENTER.
5. INSTALL CABLE TERMINALS FOR FEED A AND FEED B RETURN BACK-TO-BACK ON OPPOSITE SIDES OF PAD.
6. CABLE TERMINALS FOR CHASSIS GROUND SHALL BE 2-HOLE, 1/4" ON 5/8" CENTER.
7. SEE 2/E-1 FOR DC POWER CABLE SIZES AND MAXIMUM CABLE LENGTH.
8. SEE 1/E-1 FOR DC12-RM INTERNAL WIRING.
9. A JUNCTION BOX IS REQUIRED WHEN FIBER OPTIC CABLES ARE INSTALLED IN CONDUIT AS SCOPED BY MARKET.
10. PROVIDE GROUND WIRES FOR ENHANCED ALARM MODULE (eAM) WHEN EMPLOYED BY MARKET.
11. CONVERTER REFERENCE GROUND IS NOT REQUIRED WHEN CONVERTER AND 24V DC POWER PLANT ARE ON THE SAME RACK OR ENCLOSURE.
12. THE BARE GROUND WIRE OF EACH MULTI-CONDUCTOR CABLE SHALL BE CONNECTED TO THE "P" GROUND BAR ON THE RACK. WHEN A SHIELDED CABLE IS USED, THE DRAIN WIRE ALSO SHALL BE CONNECTED TO THE "P" GROUND BAR.
13. SEE ALARM BLOCK ASSIGNMENT DETAIL FOR ALARM CABLE CONNECTIONS.
14. ADD DC SURGE MODULES TO EXISTING RACK MOUNTED SURGE UNITS AS REQUIRED.

1 WIRING DIAGRAM
SCALE: N.T.S.

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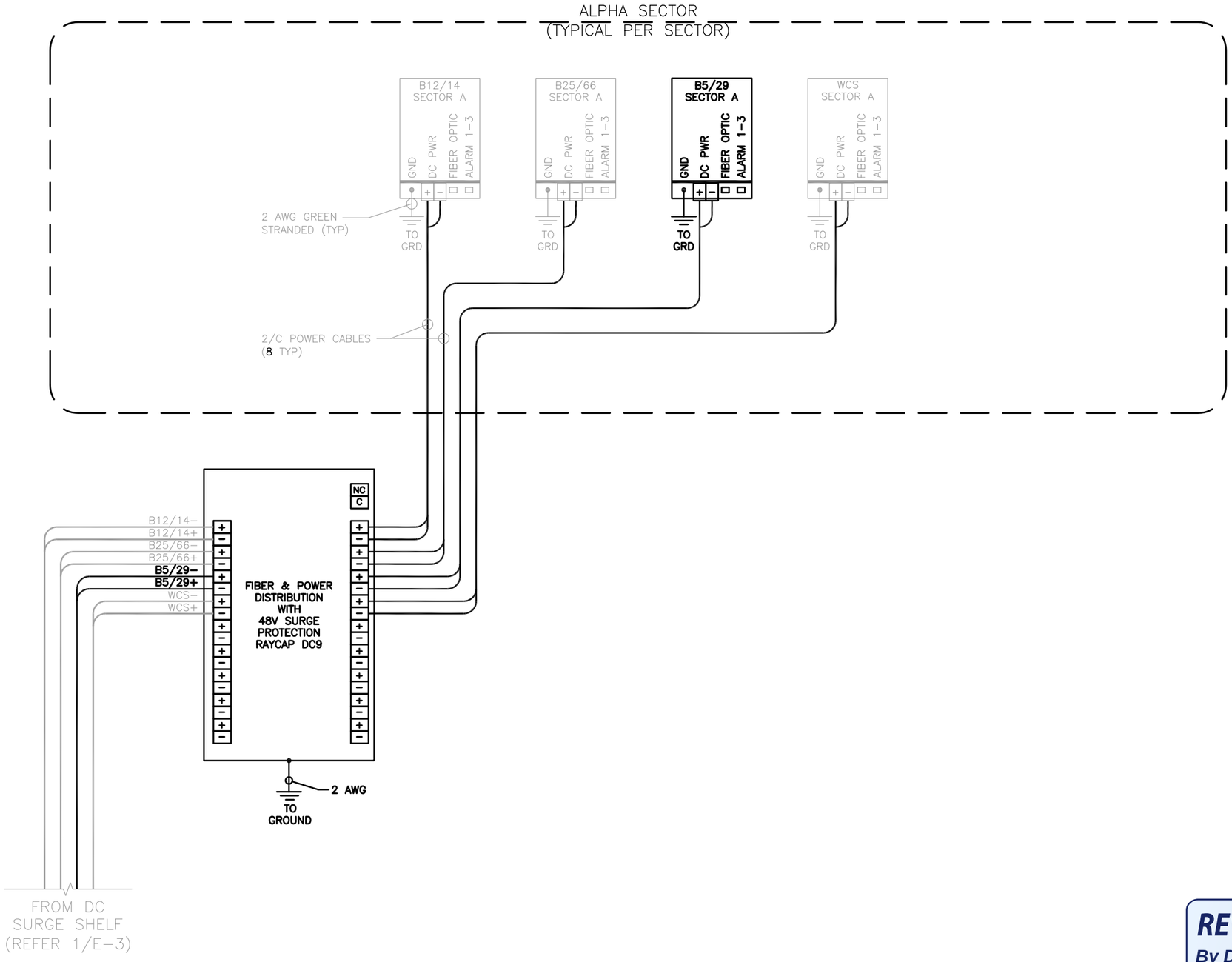

1 WIRING DIAGRAM - ROOFTOP
SCALE: N.T.S.

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REVISION:	SHEET NUMBER:
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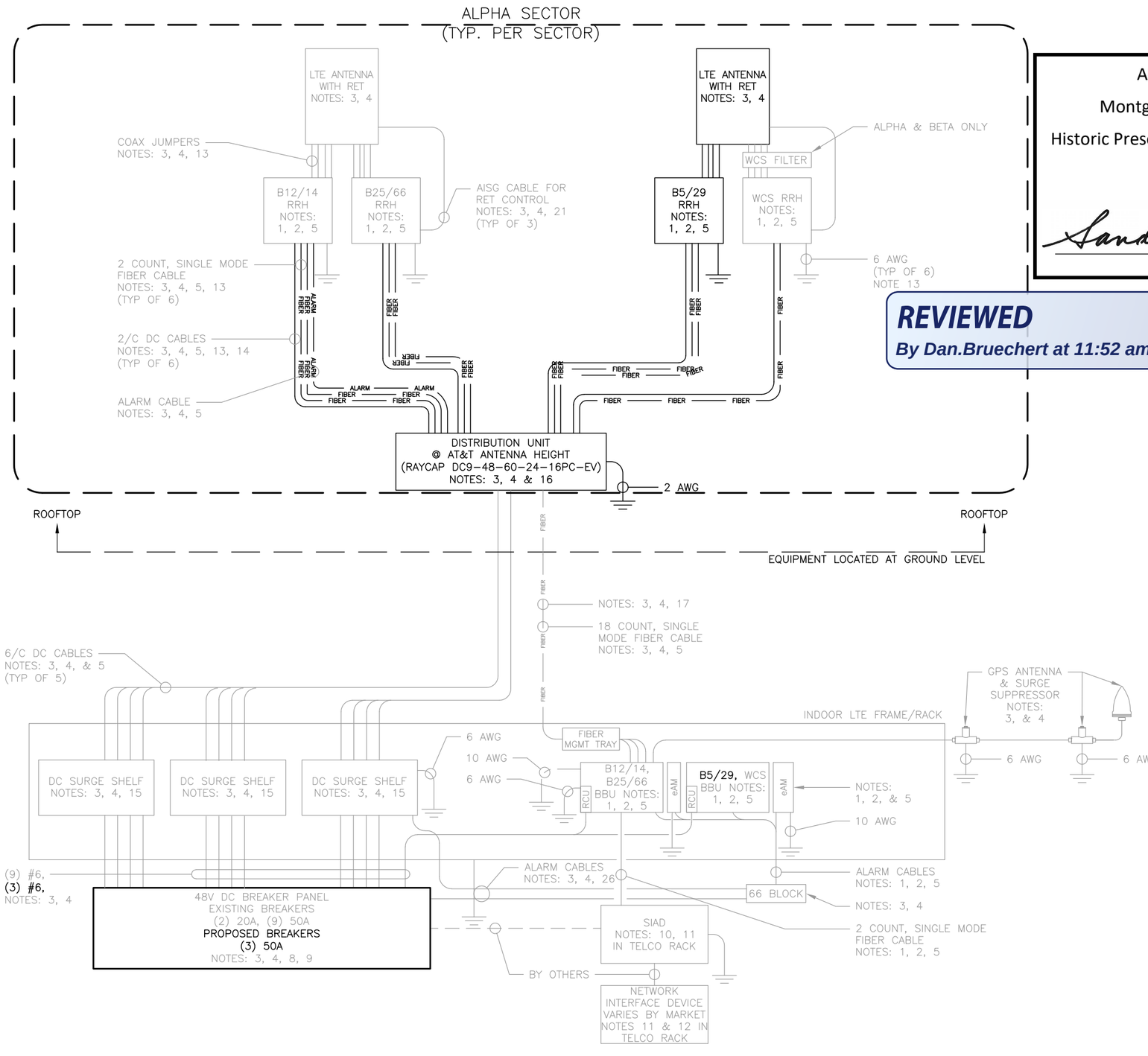

1 SYSTEM DIAGRAM
SCALE: N.T.S.

APPROVED
Montgomery County
Historic Preservation Commission

Sandra L. Heiler

REVIEWED
By Dan.Bruechert at 11:52 am, Jan 19, 2021

NOTES:

1. FURNISHED BY OEM/AT&T.
2. INSTALLED BY OEM OR AS SCOPED BY MARKET.
3. FURNISHED BY SMARTLINK.
4. INSTALLED BY SMARTLINK.
5. FINAL CONNECTION BY OEM OR AS SCOPED BY MARKET.
6. OPEN END OF LFMC TO BE LEFT WEATHERPROOFED UNTIL TERMINATED.
7. DELETED
8. PART OF DC POWER PLANT. BREAKERS SPECIFIED SEPARATELY.
9. BREAKERS TO BE TAGGED AND LOCKED OUT.
10. SIAD IS FURNISHED AND INSTALLED BY OTHERS AND INCLUDES POWER CONNECTIONS AND FIBER TO THE UNIT OR AS SCOPED BY MARKET. WHEN IN SMARTLINK SCOPE, INSTALL 10 AWG CHASSIS GROUND, PROVIDE (2) 10A BREAKERS FROM A 24V DC POWER SOURCE OR (2) 5A BREAKERS FROM A 48V DC POWER SOURCE AND CONNECT USING MFR POWER CABLE WITH SPECIAL CONNECTOR.
11. EQUIPMENT LOCATED ON EXISTING TELCO RACK.
12. LEC TO FURNISH AND INSTALL NETWORK INTERFACE DEVICE.
13. LEAVE COILED AND PROTECTED UNTIL TERMINATED.
14. SEE 2/E-1 FOR DC POWER CABLE SIZES.
15. DC SURGE SHELF SHALL BE RAYCAP DC12-48-60-RM. SEE 1/E-1 FOR INTERNAL WIRING DIAGRAM.
16. SEE 1/E-2 FOR DC9 INTERNAL WIRING DIAGRAM.
17. SUPPORT FIBER & DC POWER CABLES WITH SNAP-IN HANGERS SPACED NO GREATER THAN 3 FEET APART ON TOWER. SUPPORT FIBER AND DC POWER CABLES INSIDE MONOPOLE WITH CABLE HOISTING GRIPS AT 250 FT MAXIMUM INTERVALS. DRESS CABLES TO PREVENT CONTACT WITH ENTRANCE AND EXIT OPENINGS.
18. MAX DC CABLE LENGTH IS 16 FEET.
19. DC POWER CABLES SHALL BE COPPER, CLASS B STRANDING, TYPE RHH/RHW UL LISTED FOR 90°C DRY/75°C WET INSTALLATIONS.
20. GROUNDING WIRES SHALL BE COPPER, THHN/THWN UL LISTED FOR 90°C DRY/75°C WET INSTALLATION. MINIMUM SIZE IS 6 AWG UNLESS NOTED OTHERWISE.
21. RET CONTROL FROM THE RRH IS AN OPTIONAL METHOD OF CONNECTION. REFER TO RF DATA SHEET FOR APPLICABILITY.
22. FIBER OPTIC TRUNKS SHALL BE INSTALLED IN FLEXIBLE CONDUIT AS SCOPED BY MARKET.
23. MAXIMUM 4/0 AWG CABLE LENGTH FROM 24V DC POWER PLANT TO CONVERTER SHALL NOT EXCEED 44 FT.
24. PROVIDE GROUND WIRES FOR ENHANCED ALARM MODULE (eAM) WHEN EMPLOYED BY MARKET.
25. SEE AT&T STANDARDS FOR GPS ANTENNA AND SURGE SUPPRESSOR COAXIAL CABLE CONNECTION.
26. SEE AT&T STANDARDS FOR ALARM CABLE REQUIREMENTS.

142211_10072888_Tulip Ave.dwg — Sheet:E-4 — User: rcarson — Jun 10, 2020 - 3:31pm

B+T GRP

AT&T

smartlink

USID: 3939
FA: 10072888
TULIP AVE
7051 CARROL STREET
TAKOMA PARK, MD 20912
EXISTING ROOFTOP

PROJECT NO:	142211.003.01
CHECKED BY:	FWP

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
A	4/6/20	STH	PRELIMINARY REVIEW
B	6/4/20	GEH	PRELIMINARY REVIEW
C	6/10/20	MTJ	PRELIMINARY REVIEW
0	6/10/20	MTJ	CONSTRUCTION

B&T ENGINEERING, INC.
07-48491
Expires 1/19/22

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REVISION:	SHEET NUMBER:
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142211_10072888_Tulip Ave.dwg – Sheet:E-5 – User: rcarson – Jun 10, 2020 – 3:31pm

EXTERNAL ALARM #	WMS ACTIVE STATE	LUCENT PUNCH DOWN ON PIN COLUMN #1		INSTALL BRIDGE CLIPS ON COLUMN #2 & #3	EQUIPMENT PUNCH DOWN ON PIN COLUMN #4	ALARM SETTING N/C OR N/O
1	OPEN	PORT #0	WHITE/BLUE	1 – – – – 1	FUTURE	
			BLUE/WHITE	2 – – – – 2		
2	OPEN	PORT #1	WHITE/ORANGE	3 – – – – 3	FUTURE	
			ORANGE/WHITE	4 – – – – 4		
3	CLOSED	PORT #2	WHITE/GREEN	5 – – – – 5	AC FAILURE (ACF)	NOT REQUIRED
			GREEN/WHITE	6 – – – – 6		
4	OPEN	PORT #3	WHITE/BROWN	7 – – – – 7	DOOR OPEN (INTRUSION)	N/C
			BROWN/WHITE	8 – – – – 8		
5	CLOSED	PORT #4	WHITE/SLATE	9 – – – – 9	BATTERIES ON DISCHARGE (BD)	NOT REQUIRED
			SLATE/WHITE	10 – – – – 10		
6	CLOSED	PORT #5	RED/BLUE	11 – – – – 11	GMT FUSE ALARM	NOT REQUIRED
			BLUE/RED	12 – – – – 12		
7	CLOSED	PORT #6	RED/ORANGE	13 – – – – 13	BATTERY DISCONNECT	NOT REQUIRED
			ORANGE/RED	14 – – – – 14		
8	OPEN	PORT #7	RED/GREEN	15 – – – – 15	FUTURE	
			GREEN/RED	16 – – – – 16		
9	OPEN	PORT #8	RED/BROWN	17 – – – – 17	2nd RAYCAP DC SURGE ARRESTOR	N/C
			BROWN/RED	18 – – – – 18		
10	OPEN	PORT #9	RED/SLATE	19 – – – – 19	HIGH TEMP	N/C
			SLATE/RED	20 – – – – 20		
11	CLOSED	PORT #10	BLACK/BLUE	21 – – – – 21	Rx AIT	NOT REQUIRED
			BLUE/BLACK	22 – – – – 22		
		PORT #11	BLACK/ORANGE	23 – – – – 23	FUTURE	
			ORANGE/BLACK	24 – – – – 24		
		PORT #12	BLACK/GREEN	25 – – – – 25	FUTURE	
			GREEN/BLACK	26 – – – – 26		
		PORT #13	BLACK/BROWN	27 – – – – 27	FUTURE	
			BROWN/BLACK	28 – – – – 28		
		PORT #14	BLACK/SLATE	29 – – – – 29	FUTURE	
			SLATE/BLACK	30 – – – – 30		
		PORT #15	YELLOW/BLUE	31 – – – – 31	FUTURE	
			BLUE/YELLOW	32 – – – – 32		
		PORT #16		33 – – – – 33	FUTURE	
				34 – – – – 34		
		PORT #17		35 – – – – 35	FUTURE	
				36 – – – – 36		
		PORT #18		37 – – – – 37	FUTURE	
				38 – – – – 38		
		PORT #19		39 – – – – 39	FUTURE	
				40 – – – – 40		
		PORT #20		41 – – – – 41	FUTURE	
				42 – – – – 42		
		PORT #21		43 – – – – 43	FUTURE	
				44 – – – – 44		
		PORT #22		45 – – – – 45	POWER MAJOR (PMJ)	N/C
				46 – – – – 46		
		PORT #23		47 – – – – 47	POWER MINOR (PMN)	N/C
				48 – – – – 48		
		PORT #24		49 – – – – 49	RAYCAP DC SURGE ARRESTOR	N/C
				50 – – – – 50		

NOTES:

- ALL LUCENT CABLE TO BE ROUTED FROM LEFT SIDE OF THE 66 BLOCK
- ALL EQUIPMENT CABLE TO BE ROUTED FROM RIGHT SIDE OF 66 BLOCK
- ALL EQUIPMENT CABLING NEEDS TO BE LABELED
- 66 BLOCK COVER REQUIRED
- BRIDGE CLIPS ARE REQUIRED

LABELING:

- LABEL COVER ("LTE EXTERNAL ALARM BLOCK")
- LABEL RAYCAP DC SURGE ARRESTOR ALARM CABLE ("DC SURGE ARRESTOR" "2nd DC SURGE ARRESTOR")
- LABEL MCU/PDU/DSX/SIAD POWER CABLES ("MCU" "PDU" "DSX" "SIAD" "GMT FUSE")
- LABEL GMT FUSE CABLE ("GMT FUSE ALARM")
- LABEL FIBER JUMPER FROM SIAD TO LTE 700 BBU WITH ("LTE 700 FIBER").
- LABEL FIBER PANEL PORTS WITH ("ALPHA 700" "BETA 700" "GAMMA 700")
- LABEL ALL DC BREAKER IF REQUIRED
- UPDATE ALL DC BREAKER SCHEDULE IN DC POWER PLANT & DC TO DC CONVERTOR.

1 66 BLOCK ALARM DETAIL FOR LTE
SCALE: N.T.S.

APPROVED
Montgomery County
Historic Preservation Commission

Sandra A. Heiler

REVIEWED
By Dan.Bruechert at 11:52 am, Jan 19, 2021

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USID: 3939
FA: 10072888
TULIP AVE
7051 CARROL STREET
TAKOMA PARK, MD 20912
EXISTING ROOFTOP

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07-48491
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STATE OF MARYLAND
JOHN W. KELLER
No. 21
REGISTERED
PROFESSIONAL ENGINEER
6/10/20

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REVISION:	SHEET NUMBER:
0	E-6

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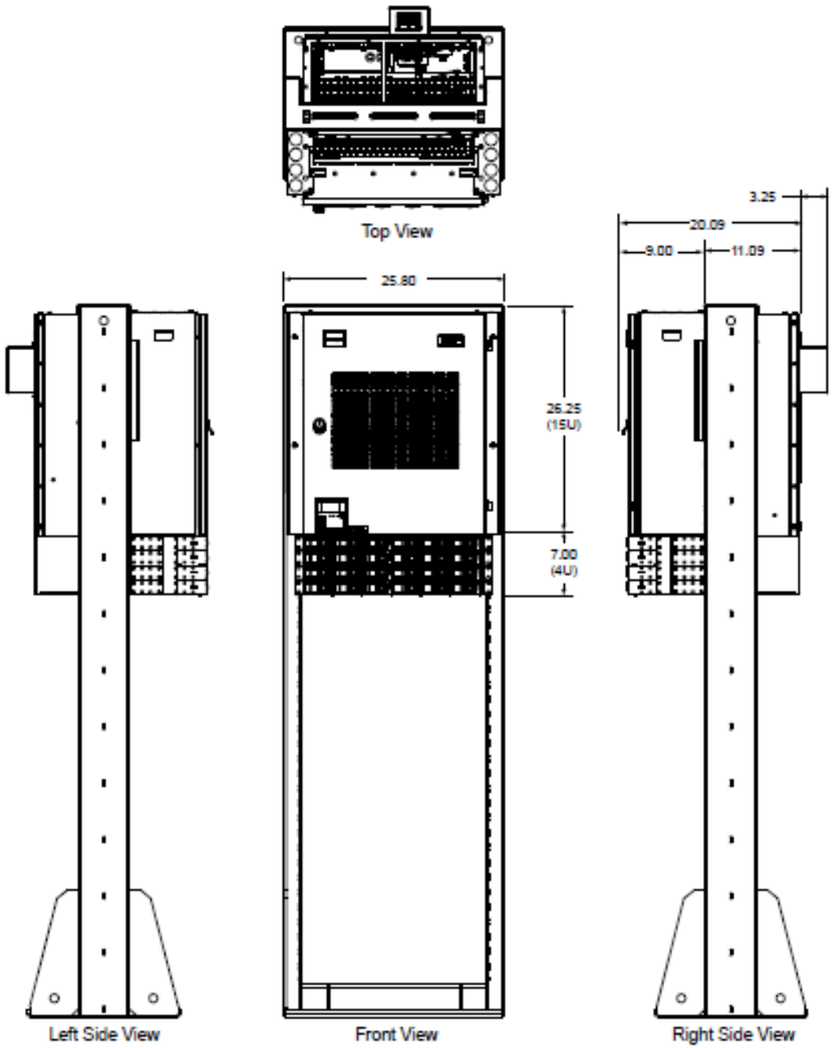
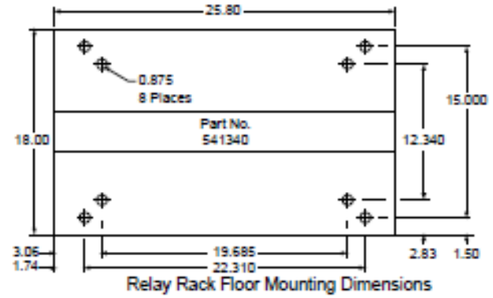
OVERALL DIMENSIONS:

ALL DIMENSIONS ARE IN INCHES, UNLESS OTHERWISE SPECIFIED.
WEIGHT OF CABINET : 500 LBS



Notes:
1. All dimensions are in inches.
2. Finish: Textured Gray
3. Relay Rack Dimensions:
   84"H x 25.8"W x 18"D
4. Relay Rack Available
   Mounting Positions: 26RU
   (1RU = 1.75") (accepts #12 hardware)
5. Weight: 500 lbs.



Relay Rack Floor Mounting Dimensions

1 INDOOR EMERSON NETSURE 721 -48V DC POWER SYSTEM
SCALE: N.T.S.

APPROVED
Montgomery County
Historic Preservation Commission

Sandra J. Heiler

REVIEWED
By Dan.Bruechert at 11:53 am, Jan 19, 2021

APPROVED
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STATE OF MARYLAND
JOHN W. KELLY
No. 21431
RECONSULTED
PROFESSIONAL ENGINEER
6/10/20

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REVISION:	SHEET NUMBER:
0	E-6.1

142211_10072888_Tulip Ave.dwg – Sheet:E-6.1 – User: rcarson – Jun 10, 2020 – 3:31pm

eSure™ Converter C48/24-1500

EMERSON. Network Power

Technical Specifications

DC Input	
Input Voltage, Nominal	48 VDC
Input Voltage, Permitted Variation	41VDC to 58.5VDC
Max Input Current	39.5A

DC Output	
Output Voltage, Adjustment Range	24 to 28 VDC
Output Power	1500W@Vout >24VDC
Output Power, Derated for Input Voltage	See diagram
Output Current	63A
Output Current Limit Set Point	6.3 to 63A
Efficiency	>95%
Psophometric Noise (system)	<2 mV; output noise<38dBrnc
Temperature Derating	See diagram

Control and Monitoring		
Converter Alarm and Signaling	Alarm and status reported via CAN bus to system controller	
Visual Indications	Green LED:	Normal Operation
	Yellow LED:	Alarm
	Red LED:	Failure
	Flashing Red LED:	Fan Failure

Environmental	
Temperature Range, Operating	-40 to +80°C, -40 to +176°F
Temperature Range, Storage	-40 to +85°C, -40 to +185°F
Relative Humidity	0 to 95%
Altitude	2000 m, 6560 ft at full power
EMC	ETSI EN 300 386 class A, FCC CFR 47 Part 15 class A, Telcordia GR-1089-CORE class A
Safety	IEC 60950, EN 60950, UL 60950

Mechanics	
Dimensions (H x W x D)	42x 8 4.5x252.5mm/1.65x3.33x9.94 inches
Weight	1.13kg/2.49lbs

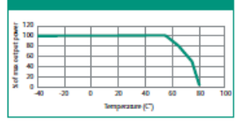
Other Parts	
Controller Units	See separate ACU/ACU+ and SCU/SCU+ datasheets

Ordering Information

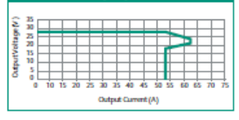
Model Number	Description
1C48241500	Converter 48VDC/24VDC 1500W

Diagrams

Output Power vs. Temperature



Output voltage vs. Output current at max. output power 1500 W



eSure™ Rectifier R48-2000e3

EMERSON. Network Power

Technical Specifications

AC Input	
Input Voltage, Nominal	200 to 250 VAC
Input Voltage, Permitted Variation	85 to 300 VAC
Line Frequency	45 to 65 Hz
Max Input Current	12 A
Power Factor	>0.99 for 50%-100% load
THD (Total Harmonic Distortion)	≤5% for 50%-100% load at 208Vac, 220Vac, 230Vac, 240Vac

DC Output	
Output Voltage, Adjustment Range	-42 to -58 V DC
Output Power	2000W Maximum
Output Power, Derated for Input Voltage	See diagram
Output Current	42A@-48VDC
Output Current Limit Set Point	0 to 42A
Peak Efficiency	96.2%
Temperature Derating	Full output power up to +65°C at input voltage range >200 - 300VAC (>176 - 200VAC, +55°C)

Control and Monitoring		
Rectifier Alarm and Signaling	Alarm and status reported via CAN bus to system controller	
Visual Indications	Green LED:	Normal Operation
	Yellow LED:	Alarm
	Red LED:	Failure

Environmental	
Temperature Range, Operating	-40 to 80°C,-40 to +176°F (See diagram for de-rating)
Temperature Range, Storage	-40 to +70°C, -40 to +158°F
Relative Humidity	0 to 95%
Altitude	2000 m, 6560 ft at full power
EMC	ETSI EN300 386: 2005, Class B. Other than telecom centers. FCC CFR 47 Part 15, Class B conducted and radiated EN55022, Class B conducted and radiated CISPR22, Class B conducted and radiated Telcordia GR-1089-CORE issue 6
Safety	UL 60950-1;EN 60950-1;IEC 60950

Mechanics	
Dimensions (H x W x D)	41x84.5x252.5mm/1.61x3.33x9.94 inches
Weight	1.13kg/2.49lbs

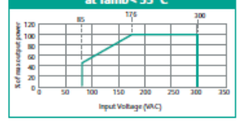
Other Parts	
Controller Units	See separate controller datasheet

Ordering Information

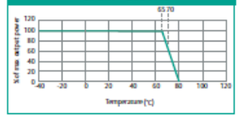
Part Number	Description
1R482000e3	High efficiency eSure™ rectifier, -48VDC,2000W

Diagrams

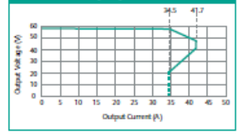
Output Power vs. Input Voltage at Tamb < 55 °C



Output Power vs. Temperature at Uin > 200VAC



Output voltage vs. Output current, max. output power 2000 W



1 INDOOR EMERSON NETSURE 721 SPEC SHEETS
SCALE: N.T.S.

B+T GRP

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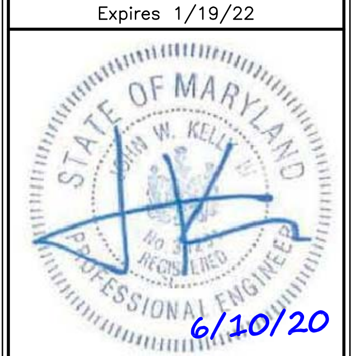

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0	E-7

142211_10072888_Tulip Ave.dwg – Sheet:E-7 – User: rcarson – Jun 10, 2020 – 3:32pm

SITE DATA INPUT WORKSHEET - INDOOR SITE POWER ESTIMATE TOOL

NOTE: LOAD VALUES FOR ANY EQUIPMENT CAN BE USER SPECIFIED ON THE POWER CONSUMPTION WORKSHEET - USER CHANGES TO DEFAULT LOAD VALUES ARE HIGHLIGHTED IN BRIGHT YELLOW

STEP 1: ENTER QUANTITIES OF EQUIPMENT & DC OPERATING VOLTAGE:

STEP 2: ENTER DC PLANT TYPE FROM DROP-DOWN MENU:
("GENERIC" +24V or -48V DC PLANT CAN BE SELECTED FOR ANY MANUFACTURER'S DC PLANT)
Emerson STD -48VDC NetSure 721 Plant 800A NEQ.15920
-48V PRIMARY DC PLANT SPECIFIED
(DC PLANT CONFIGURATION CAN BE REVIEWED ON DC PLANT WORKSHEET)

STEP 2A: THIS STEP ONLY SHOWN IF "GENERIC" DC PLANT PLANT TYPE HAS BEEN SELECTED:

STEP 2B: THIS STEP ONLY SHOWN IF TYCO GPS2424 DC PLANT PLANT TYPE HAS BEEN SELECTED:

STEP 3: DO YOU WANT TO CONFIGURE A STANDARD STAND-ALONE DC CONVERTER SYSTEM? N
NOTE: IF YOU SELECT "Y" ANY INTEGRATED DC PLANT CONVERTER OPTIONS WILL BE BYPASSED

STEP 4: ENTER INDOOR SITE BUILDING/SHELTER DATA:
(Square footage used for Interior AC lighting LOAD calculation)
SELECT SITE BUILDING TYPE & SIZE: OTHER
SPECIFY TOTAL FLOOR SPACE (SQUARE FEET): 0

STEP 5: ENTER SITE HVAC SYSTEM DATA:
SPECIFY INDIVIDUAL HVAC UNIT SIZE (TONS): 0 SPECIFY QUANTITY: 0
DOES SITE HAVE ADDITIONAL HVAC (DIFFERENT SIZE)? N
ARE THERE SITE HVAC HEATING UNITS? N
TOTAL SPECIFIED SITE HVAC: 0-TONS ESTIMATED HVAC REQUIREMENT: TWO 3-TON UNITS
SPECIFIED HVAC NOT SUFFICIENT
THIS TOOL DOES NOT APPLY TO SITES THAT ARE EQUIPPED WITH FREE STANDING DIRECT AIR COOLING

STEP 6: ENTER SITE STATIONARY GENERATOR DATA:
DOES SITE HAVE A STATIONARY GENERATOR? N
ESTIMATED CAPACITY REQUIRED: 38 KW (NO SITE GENERATOR)

STEP 7: ENTER SITE BATTERY CONFIGURATION DATA:
SELECT SINGLE STRING BATTERY CAPACITY (AH): 170
SPECIFY TOTAL QUANTITY OF BATTERY STRINGS: 5
TOTAL SITE BATTERY CAPACITY (AH): 850
NOTE: STANDARD BATTERY CAPACITY HAS BEEN SPECIFIED
NOTE: 12 VOLT MONOBLOCK BATTERIES - 4 batteries per -48V String
ESTIMATED BATTERY RESERVE TIME: 4.56 HOURS (NO SITE GENSET)
SITES WITH STATIONARY GENSETS SHALL BE ENGINEERED WITH A MAX OF 3 SHELVES of 180 AH BATTERIES (3 strings at -48v or 6 strings at +24v) - ALL OTHER SITES A MINIMUM OF 4 HOURS

SITE POWER CALCULATION TOOL - VERSION 4.3 - October 17, 2017 R. BADGERO
ANY QUESTIONS PLEASE CONTACT RICK BADGERO (RB6620@ATT.COM)

QTY	RADIO HEADS - Outdoor	VOLTAGE	WATTS
	Ericsson		
0	RRUS 01 B2, B5 (80W)	48	0
0	RRUS 01 B12 (60W)	48	0
0	RRUS 11 B12 (2x30W)	48	0
0	RRUS 11 B2, B4, B5, B12 (2x40W)	48	0
0	RRUS 12 B2, B4, B5 (2x60W)	48	0
0	RRUS 32 B2 (4x40W)	48	0
0	RRUS 32 B30 (4x25W)	48	0
0	RRUS 32 B66A	48	0
0	RRUS A2 B2, B4, B12	48	0
0	RRUSE2 B29	48	0
0	RRUW B2, B5	48	0
0	AIR 21 (80W)	48	0
0	RRUS 4478 B14	48	0
	(FUTURE)		
	A-LU		
3	4x45 B66A	48	3300
0	FDD RRH2x40-07L (UHLA) B17	48	0
0	RRH2x40-07L-AT (UHLB) B17	48	0
0	B25 RRH4x30 (UHFA) B25	48	0
0	B25 RRH2x60 (UHFA) B25	48	0
3	2X60W-850 B5	48	1935
0	2X60W-1900 B2	48	0
0	2X60W-1900A B2	48	0
0	RRH2x40-07L-DE (UHLC) B29	48	0
3	RRH 4T4R (FRBI) B14	48	3060
3	RRH4X25 B30	48	1248
	(FUTURE)		0
	(FUTURE)		0

QTY	RADIO HEADS - Indoor	VOLTAGE	WATTS
	Ericsson		
0	RRUS 01 B2, B5 (80W)	48	0
0	RRUS 01 B12 (60W)	48	0
0	RRUS 11 B12 (2x30W)	48	0
0	RRUS 11 B2, B4, B5, B12 (2x40W)	48	0
0	RRUS 12 B2, B4, B5 (2x60W)	48	0
0	RRUS 32 B2 (4x40W)	48	0
0	RRUS 32 B30 (4x25W)	48	0
0	RRUS 32 B66A	48	0
0	RRUS A2 B2, B4, B12	48	0
0	RRUSE2 B29	48	0
0	RRUW B2, B5	48	0
0	AIR 21 (80W)	48	0
0	RRUS 4478 B14	48	0
	(FUTURE)		0
	A-LU		
0	4x45 B66A	48	0
0	FDD RRH2x40-07L (UHLA) B17	48	0
0	RRH2x40-07L-AT (UHLB) B17	48	0
0	B25 RRH4x30 (UHFA) B25	48	0
0	B25 RRH2x60 (UHFA) B25	48	0
0	2X60W-850 B5	48	0
0	2X60W-1900 B2	48	0
0	2X60W-1900A B2	48	0
0	RRH2x40-07L-DE (UHLC) B29	48	0
0	RRH 4T4R (FRBI) B14	48	0
0	RRH4X25 B30	48	0
	(FUTURE)		0
	(FUTURE)		0

QTY	LTE 4G & Multi-Std EQUIPMENT	VOLTAGE	WATTS
0	A-LU 9926 LTE BBU (w/max 3 eCEM-u)	48	0
2	Nokia FSM-4	48	1996
	(FUTURE)		
	(FUTURE)		
	(FUTURE)		
	(FUTURE)		
0	Ericsson LTE RBS6601 BBU - 1 DUL	48	0
0	Ericsson LTE RBS6601 BBU - 2 DUL	48	0
0	Ericsson W/CDMA RBS6601 - 1 DUW	48	0
0	Ericsson LTE RBS6601 BBU - 1DUS	48	0
0	Ericsson LTE RBS6601 BBU - 2DUS	48	0
0	Ericsson XMU	48	0
0	Ericsson LTE RBS5216	48	0
	(FUTURE)		
	(FUTURE)		
	(FUTURE)		
	(FUTURE)		

QTY	UMTS 3G EQUIPMENT	VOLTAGE	WATTS
0	A-LU MACRO NodeB (351C - 40W)	24	0
1	A-LU MACRO NodeB (352C - 40W)	24	1636
0	A-LU MACRO NodeB (353C - 40W)	24	0
0	A-LU MACRO NodeB (354C - 40W)	24	0
0	A-LU MACRO NodeB (355C - 40W - 2 CAB)	24	0
0	A-LU MICRO NodeB	24	0
0	A-LU 9396 d2U Distributed NodeB MU	48	0
0	A-LU 9396 d4U Distributed NodeB MU	48	0
	(FUTURE)		0
	(FUTURE)		
0	Ericsson RBS3206 NodeB 351C - 1 CAB	24	0
0	Ericsson RBS3206 NodeB 352C - 1 CAB	48	0
	NON-OBIF Ericsson 3rd, 4th & 5th Carrier		
0	Ericsson RBS3206 NodeB 353C - 2 CAB	24	0
0	Ericsson RBS3206 NodeB 354C - 2 CAB	24	0
0	Ericsson RBS3206 NodeB 355C - 3 CAB	24	0
	OBIF Ericsson 3rd, 4th & 5th Carrier		
0	Ericsson RBS3206 NodeB 353C - 1 CAB (Select RRUS from left section)	24	0
0	Ericsson RBS3206 NodeB 354C - 1 CAB (Select RRUS from left section)	24	0
0	Ericsson RBS3206 NodeB 354C - 1 CAB (Select RRUS from left section)	24	0
0	Ericsson RBS3206 NodeB 355C - 2 CAB (Select RRUS from left section)	24	0
0	Ericsson 3303 MICRO NodeB	24	0
0	Ericsson RBS3418 Distributed NodeB MU	48	0
	(FUTURE)		
	(FUTURE)		

(CUSTOM AC LOADS DEFINED ON POWER CONSUMPTION WORKSHEET)

QTY	USER SPECIFIED AC EQUIPMENT	VOLTAGE	KVA
0	UMTS NODE B	240	0
5	INNOVATION HVAC	240	12.6
0	UMTS HEATER	240	0
0	PURCELL AC	240	0
0	RBA72 ANCILL CIRC	120	0
0			0
0			0
0			0
0			0
0			0
		TOTAL USER SPECIFIED KVA:	12.6
	TOTAL 120VAC AMPS:	0	
	TOTAL 240VAC AMPS:	0	

QTY	ANCILLARY CELL SITE EQUIPMENT	VOLTAGE	WATTS
1	A-LU 7705 SIAD	24	60
	(FUTURE)		
0	A-LU MPR-9500 MW Service Switch - MSS	48	0
0	A-Lu MPR-9500 MW Outdoor Unit - ODU	48	0
0	A-Lu MPR-9500 MW MPT-HL (Indoor)	48	0
	(FUTURE)		
0	Cisco MWR-2941 SIAD	48	0
0	Cisco SIAD ASR-901	48	0
0	Cisco 15310 EOS (SONET) MUX	48	0
0	Cisco 15454 MSP (MW Ring Config.)	48	0
	(FUTURE)		
0	Tru-Position LMU (E911)	48	0
0	DC Free Air (per HVAC unit)	48	0
0	GENERIC Ethernet NID	24	0
0	GENERIC Hydrogen Detector	48	0
1	GENERIC RET Controller	24	60
0	GENERIC RXAIT	48	0
0	GENERIC Smoke Detector	48	0
0	GENERIC TMA System	48	0
0	GENERIC Tower Lighting (DC)	48	0
0	NG480	48	0
0	Cisco 2911	48	0
	(FUTURE)		
	(FUTURE)		
	(FUTURE)		
	(FUTURE)		
	(FUTURE)		

QTY	TX RF AMP (MCPA or SCPA) EQPT.	VOLTAGE	WATTS
0	Andrew (12 module mcpa FRAME)	24	0
0	Andrew 135 Watt Module	24	0
	(FUTURE)		
0	Powerwave 12 module mcpa FRAME)	24	0
0	Powerwave 90 Watt Module	24	0
0	Powerwave 120 Watt Module	24	0
0	Powerwave 180 Watt Module	24	0
	(FUTURE)		
0	CCI 125 Watt DAB SCPA Module	24	0
0	CCI 125 Watt DAC SCPA Module	24	0
	(FUTURE)		

(CUSTOM DC LOADS DEFINED ON POWER CONSUMPTION WORKSHEET)

QTY	USER SPECIFIED DC EQUIPMENT	VOLTAGE	WATTS
0	Echo Repeater	48	0
0	FLX 12 Mini Purcell	24	0
0	FLX 16 OD 9412 LTE BBU	48	0
0	Airscale RRH 4T4R B5 Low 160W ACHA	48	0
0	Airscale Dual RRH 4T4R B12/14	48	0
0	Airscale Dual RRH 4T4R B25/66	48	0
0	AAFIB Airscale MMA Dual 16T16R	48	0
0	Airscale RRH 4T4R B30 100W	48	0
0	Nokia B14/12/29 Triband RRH	48	0
1	FLEX21	48	658
0		48	0
0		48	0
0		48	0
0	Andrew ACU	48	0
1	Canoga Perkins NID	48	30
		TOTAL USER SPECIFIED WATTS:	688
	TOTAL +24V (27V) AMPS:	0	
	TOTAL -48V (54V) AMPS:	12.7	

-48V PRIMARY VOLTAGE DC PLANT SPECIFIED				
+24VDC EQUIPMENT LOAD:	1776 WATTS	=	66 AMPS	at +24V
-48VDC EQUIPMENT LOAD:	12224 WATTS	=	227 AMPS	at -48V
43 AMPS (2317 Watts) AT PRIMARY 48V REQUIRED TO SUPPORT 24V DC CONVERTER SYSTEM				
TOTAL PRIMARY 48V LOAD:	14541 WATTS	=	270 AMPS	at -48V

(DC PLANT CONFIGURATION CAN BE REVIEWED ON DC PLANT WORKSHEET)		
DC PLANT: Emerson STD -48VDC NetSure 721 Plant 800A NEQ.15920		
-48V RECTIFIERS REQUIRED (N+1):	10	
-48V RECTIFIER SLOTS:	21	
CONV. TYPE: 0		
+24V CONVERTERS REQUIRED:	3	
+24V CONVERTER SLOTS:	12	
ESTIMATED BATTERY RESERVE TIME		
5 170 AH 48V STRINGS =	4.56 HOURS	(4 HOUR MINIMUM BATTERY RESERVE)

ESTIMATED SITE MAX. AC LOAD (AMPS):	154.58 AMPS
ESTIMATE 200A SERVICE SUFFICIENT	
SITE GENERATOR CAPACITY REQUIRED:	38 KW
ON SITE GENERATOR CAPACITY:	0 KW
(NO ON-SITE GENERATOR)	
RECOMMENDED HVAC SYSTEM:	TWO 3-TON
SPECIFIED SITE TOTAL HVAC CAPACITY:	0-TONS
ESTIMATE EXISTING HVAC NOT SUFFICIENT	

APPROVED
Montgomery County
Historic Preservation Commission
Sandra I. Heiler

REVIEWED
By Dan.Bruechert at 11:53 am, Jan 19, 2021

1 POWER LOAD CALCULATIONS
SCALE: N.T.S.

B+T GRP

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USID: 3939
FA: 10072888
TULIP AVE
7051 CARROL STREET
TAKOMA PARK, MD 20912
EXISTING ROOFTOP

PROJECT NO:	142211.003.01
CHECKED BY:	FWP

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
A	4/6/20	STH	PRELIMINARY REVIEW
B	6/4/20	GEH	PRELIMINARY REVIEW
C	6/10/20	MTJ	PRELIMINARY REVIEW
0	6/10/20	MTJ	CONSTRUCTION

B&T ENGINEERING, INC.
07-48491
Expires 1/19/22

STATE OF MARYLAND
JOHN W. KELLY
No. 21
REGISTERED
PROFESSIONAL ENGINEER
6/10/20

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REVISION:	SHEET NUMBER:
0	E-8

142211_10072888_Tulip Ave.dwg – Sheet:E-8 – User: rcarson – Jun 10, 2020 – 3:32pm

PANEL SCHEDULE

10072888 — Tulip Ave — Intersect panel
120/208V, 3 PHASE — 200A MAIN BKR (COMMERCIAL PWR) 65 KAIC SERIES RATED
200A BUS, 10 KAIC — UL LISTED SERVICE ENTRANCE EQUIPMENT
MAIN BREAKER RATING (A) : 200 — SYSTEM VOLTAGE (V) : 208

Type	DESCRIPTION	VA	c/nc	BKR	POSN	L1	L3	L2	POSN	BKR	c/nc	VA	DESCRIPTION	Type
single	LIGHTS(OFF)	0	nc	20	1	2150			2	40	c	2150	RECT 1/2	dual
single	GFCI(OFF)	0	nc	20	3			2150	4		c	2150		
dual	AIR COND 1	1095	nc	20	5		3245		6	40	c	2150	RECT 3/4	dual
		1095	nc		7	3245			8		c	2150		
dual	AIR COND 2(OFF)	0	nc	20	9			2150	10	40	c	2150	RECT 5/6	dual
		0	nc		11		2150		12		c	2150		
dual	AIR COND 3	1095	nc	20	13	3245			14	40	c	2150	RECT 7/8	dual
		1095	nc		15			3245	16		c	2150		
dual	AIR COND 4	1095	nc	20	17		3245		18	40	c	2150	RECT 9/10	dual
		1095	nc		19	3245			20		c	2150		
dual	AIR COND 5(OFF)	0	nc	20	21			0	22	40	c	0	RECT 11/12	dual
		0	nc		23		0		24		c	0		
dual	AIR COND 6	1095	nc	20	25	2190			26	20	c	1095	AC 7	dual
		1095	nc		27			2190	28		c	1095		
single	FIBER TOWER	0	nc	15	29		0		30	20	nc	0	SPARE	single
	NOT AVAILABLE				31	0			32				NOT AVAILABLE	
	NOT AVAILABLE				33			0	34				NOT AVAILABLE	
	NOT AVAILABLE				35		0		36				NOT AVAILABLE	
	NOT AVAILABLE				37	0			38				NOT AVAILABLE	
	NOT AVAILABLE				39			0	40				NOT AVAILABLE	
	NOT AVAILABLE				41		0		42				NOT AVAILABLE	
	PHASE TOTALS (VA):					14075	8640	9735						
	CURRENT PER PHASE (A):					117	72	81	Amperes/phase cannot exceed main breaker rating					
	PANEL TOTAL (VA):					32450			Legend: c = continuous, nc = non-continuous					
	PANEL CAPACITY (kVA):					72.1			CONNECTED LOAD (kVA):			32.5		
	PANEL LOADING (TOTAL) (kVA):					32.5								
	SPARE CAPACITY (kVA):					39.6								

1 AC PANEL SCHEDULE

SCALE: N.T.S.

DESCRIPTION	700 BBU	FUTURE BBU	B12/14 LTE RRH/RRU SECTOR A	B12/14 LTE RRH/RRU SECTOR B	B12/14 LTE RRH/RRU SECTOR C	B25/66 LTE RRH/RRU SECTOR A	B25/66 LTE RRH/RRU SECTOR B	B25/66 LTE RRH/RRU SECTOR C	**B5/29 LTE RRH/RRU SECTOR A**	**B5/29 LTE RRH/RRU SECTOR B**	**B5/29 LTE RRH/RRU SECTOR C**	WCS LTE RRH/RRU SECTOR A	WCS LTE RRH/RRU SECTOR B	WCS LTE RRH/RRU SECTOR C				
BRKR RATING (A)	20	20	50	50	50	50	50	50	**50**	**50**	**50**	50	50	50				
POSITION	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18

2 DC PANEL SCHEDULE

SCALE: N.T.S.

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Montgomery County
Historic Preservation Commission

REVIEWED
By Dan.Bruechert at 11:53 am, Jan 19, 2021

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USID: 3939
FA: 10072888
TULIP AVE
7051 CARROL STREET
TAKOMA PARK, MD 20912
EXISTING ROOFTOP

PROJECT NO:	**142211.003.01**
CHECKED BY:	**FWP**

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B&T ENGINEERING, INC.
07-48491
Expires 1/19/22

STATE OF MARYLAND
JOHN W. KELLER
No. 21441
REGISTERED
PROFESSIONAL ENGINEER
6/10/20

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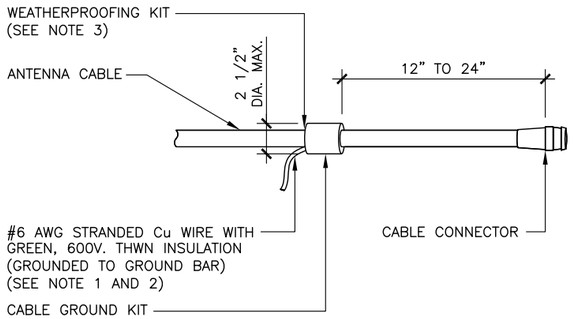
REVISION:	SHEET NUMBER:
0	G-1

142211_10072888_Tulip Ave.dwg – Sheet:G-1 – User: rcarson – Jun 10, 2020 – 3:32pm

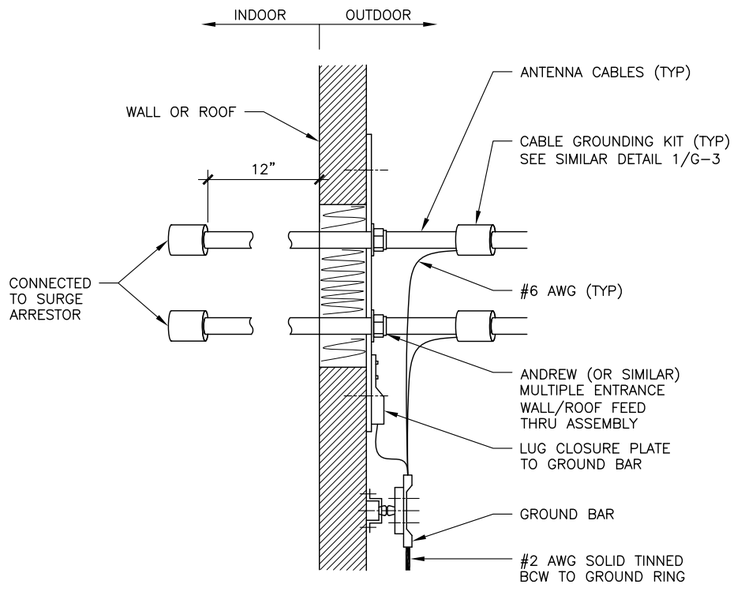


NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

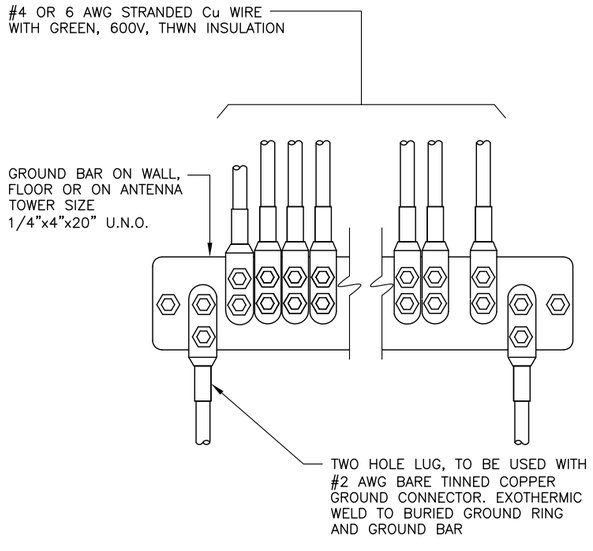
1 CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE

SCALE: N.T.S.



2 INSTALLATION OF CABLE GROUNDING KIT

SCALE: N.T.S.



3 INSTALLATION OF GROUND WIRE TO GROUND BAR

SCALE: N.T.S.

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Montgomery County

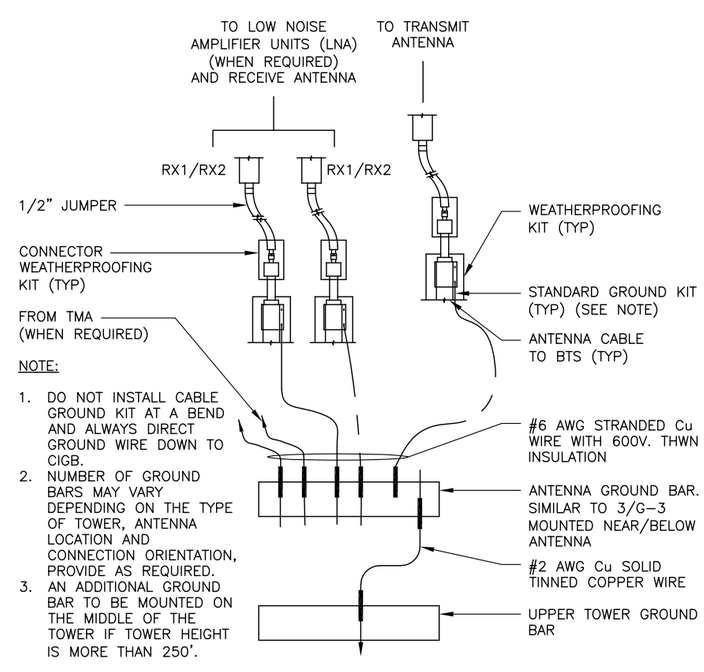
Historic Preservation Commission

Sandra A. Heiler

REVIEWED
By Dan.Bruechert at 11:53 am, Jan 19, 2021

4 NOT USED

SCALE: N.T.S.



NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGB.
2. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION AND CONNECTION ORIENTATION, PROVIDE AS REQUIRED.
3. AN ADDITIONAL GROUND BAR TO BE MOUNTED ON THE MIDDLE OF THE TOWER IF TOWER HEIGHT IS MORE THAN 250'.

5 CONNECTION OF GROUND WIRE TO GROUNDING BAR (CIGBE)

SCALE: N.T.S.

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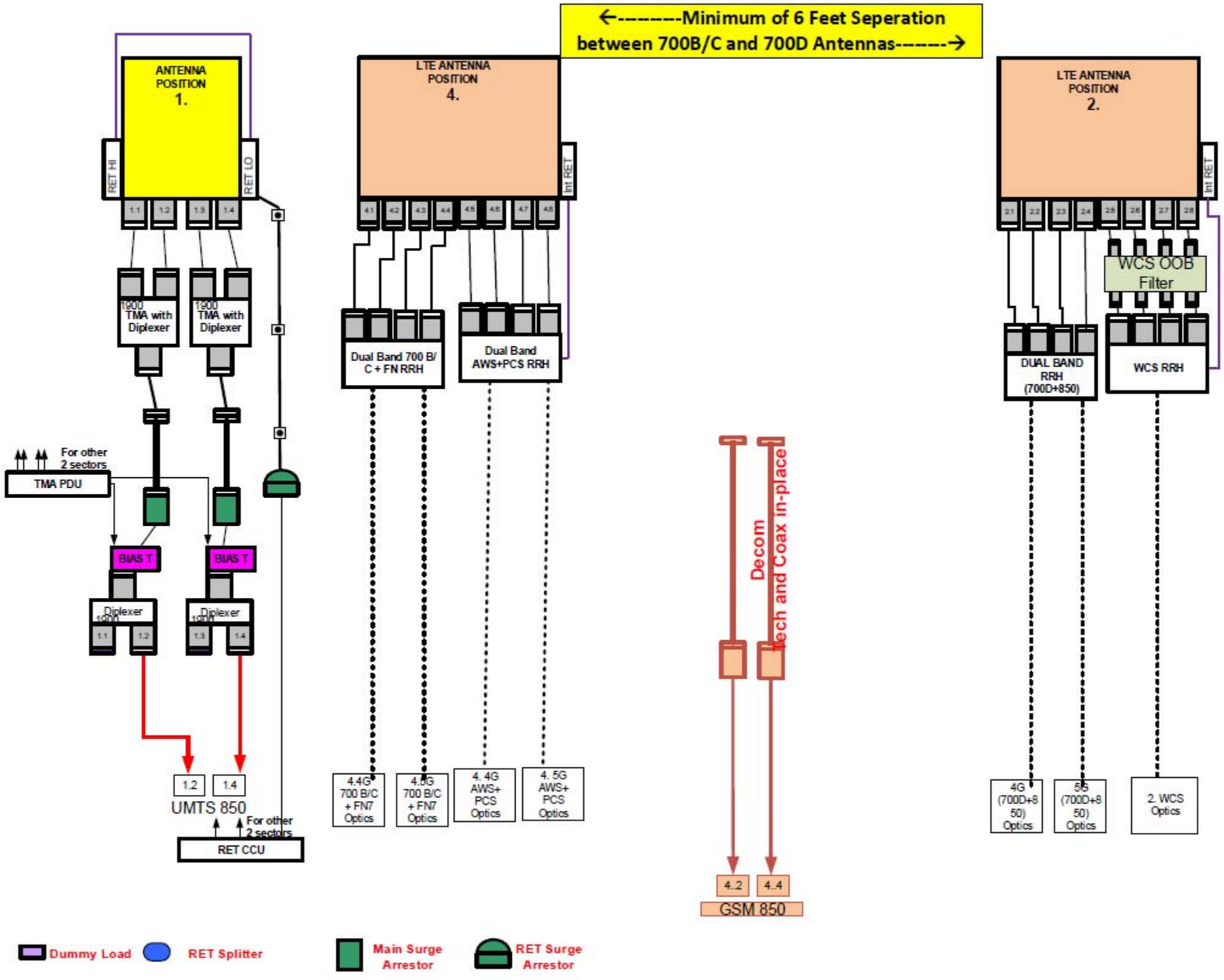

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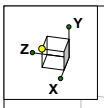
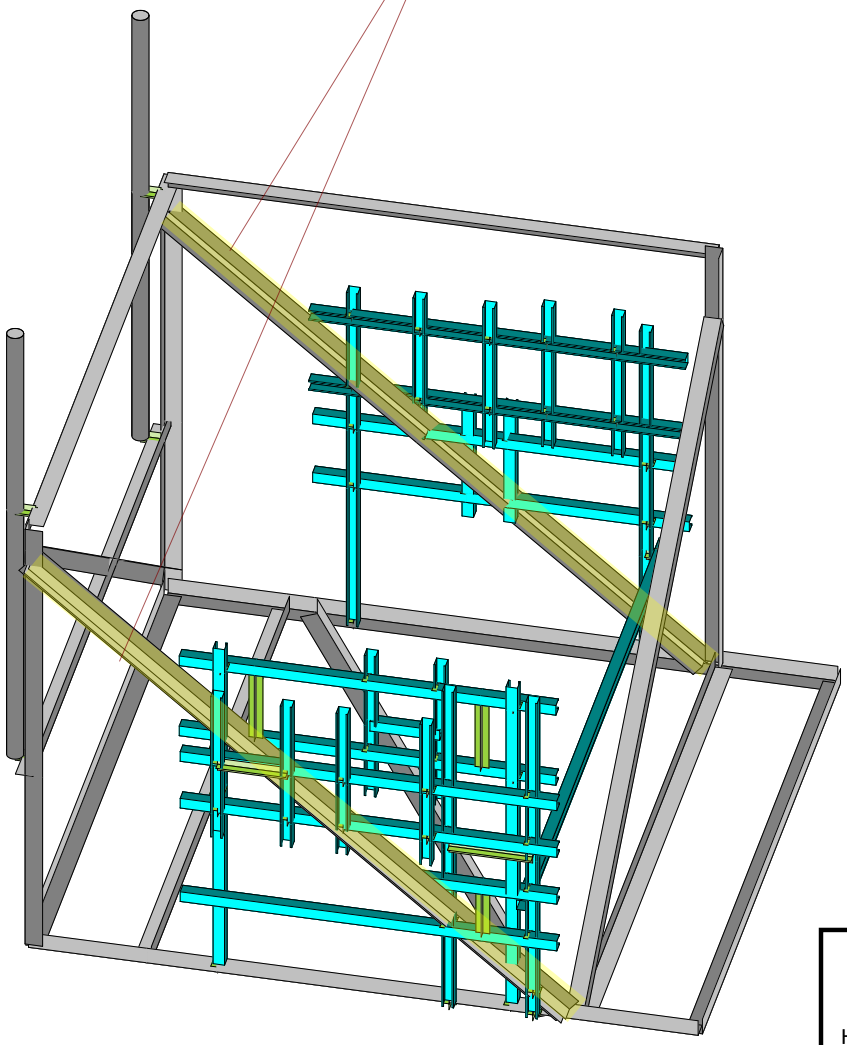


DIAGONALS DOUBLED WITH NEW L2.5X2.5X4 ANGLES, BOLTED TO EXSITING ANGLES WITH 1/2" DIA BOLT, 1ft. SPACING BETWEEN BOLTS



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Envelope Only Solution

B+T Group	10072888 - Tulip Ave	SK - 2
NKM		May 12, 2020 at 2:46 PM
142211.002.01		142211_002_01_Tulip Ave_MD (Al...